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Vivere Viventibus est Esse in Aristotle and St. Thomas . . . 85
Albert E. Wingell

Thomism and Atomism 121
Edward MacKinnon, S.J.

NOTES AND DISCUSSION

Concerning the "Real Distinction" of Essence and Existence 142
William L. Reese

The Real Distinction: Reply to Professor Reese 149
Leonard J. Eslick

BOOK REVIEWS

THOMAS LANGAN. *The Meaning of Heidegger* 161
Quintin Lauer, S.J.

HARRY M. BRACKEN. *The Early Reception of Berkeley's Immaterialism, 1710-1733* 163
James Collins

GOTTFRIED MARTIN. *Kant's Metaphysics and Theory of Science* . . . 164
Harry A. Nielsen

ANDRÉ HAYEN, S.J. Vol. I, *La métaphysique d'un théologien.* Vol. II, *L'ordre philosophique de saint Thomas* 166
Walter E. Stokes, S.J.

W. LLOYD WARNER. *The Living and the Dead: A Study of the Symbolic Life of Americans* 169
Walter J. Ong, S.J.

Books Received . . . . . C. III

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VIVERE VIVENTIBUS EST ESSE IN ARISTOTLE AND ST. THOMAS

Mr. Albert E. Wingell *received his B.A. from the University of San Francisco and his M.A. from the University of Toronto. He is presently engaged in graduate work at the Pontifical Institute of Mediaeval Studies and will do his teaching at St. Michael's College.*

I. Introduction

The Aristotelian phrase, *vivere viventibus est esse*, with its aphoristic ring, became for the Scholastics a maxim to be thrown in wherever the argumentation allowed its application. It is found frequently in St. Thomas in different contexts and invoked to prove a variety of statements, sometimes his own, sometimes those of the objections presented in the dialectic of a given article. The maxim no doubt has an authentic Aristotelian meaning. In the background of the whole of the Stagirite's teaching, it should come alive as a peculiarly Aristotelian insight into reality. The question remains of what happens to the statement in its many uses and applications by a medieval theologian. Does it here retain its Aristotelian force? Or is it simply another limb of that "dead Aristotelianism"—a body of terms, distinctions, procedures, principles, and terse literal quotations which was the common property of the Scholastics—for each theologian to inform and suffuse with his own highly idiosyncratic spirit and meaning?

We are concerned in this paper with defining the meaning the phrase had in Aristotle and then seeing whether the meaning given it by St. Thomas is any different from its authentic Aristotelian sense. This object will take us into the respective teachings of Aristotle and St. Thomas that are relevant to an exposition of the phrase, and into an examination of other texts where it or similar statements appear. Let us first recall the text from which the phrase is taken.

> But the soul is the cause of its body alike in all three senses which we explicitly recognize. It is the source or origin of movement, it is the end, it is the essence of the whole living body. That it is the last is clear; for in everything the essence is identical with the ground of its being, and here, in the case of living things, their being is to live, and of their being and their living the soul in them is the cause or source.[1]

The chain of argument is clear. The point at issue is that the soul is the formal (as well as motive and final) cause of the body. Its role as formal cause is manifest from the general notion of what the "essence" (*ousia*) is; namely, the principle or cause of being (*to aition tou einai*) in all the things that are. Now, for living things, being is living. To say that they are is to say that they are alive. Since the soul is generally regarded as the cause of life in a living body, it is the cause of being and hence the *ousia*; that is, the "essence" in the sense of formal cause.

But for all the clarity of this brief syllogism, the text is dense with hastily sketched premises and unstated implications. The chief one is the meaning of "being" for Aristotle. Grammatical considerations do not help. All we have in the Greek is the infinitive of the verb "to be" used as a noun denoting the action signified by the verb; it can therefore receive the neuter definite article. The Oxford translation here puts for it the English gerund or verbal noun, to be understood as the name of an act and not as the participle identical with it in form, which functions as an adjective. *To einai* is then "the being" of a thing. This still does not explain why Aristotle regards the statements "a living thing is" and "a thing is alive" as identical.

Secondly, since the two are identified here, the meaning of "life" or "to live" is just as much at stake as that of being. Are there any peculiarities in Aristotle's doctrine to demand that "life" or "living"

[1]*De Anima*, III, 4, 415b9-14. *The Basic Works of Aristotle*, ed. Richard McKeon (New York, 1941). For the Greek text see *Aristotelis De Anima*, ed. W. D. Ross (Oxford, 1956).

[2]"We resume our inquiry from a fresh starting-point by calling attention to the fact that what has soul in it differs from what has not in that the former displays life. Now this word has more than one sense, and provided any one alone of these is found in a thing we say that thing is living. Living, that is, may mean thinking or perception or local movement and rest, or movement in the sense of nutrition, decay and growth" (*ibid.*, II, 2, 413a20-25).

be given a technical philosophical connotation beyond its ordinary meaning, insofar as he here identifies it with being? It must be emphasized that in a passage before this he has spoken of "life" in a quite commonplace sense, as the operations evident to us that lead us to call the things that so operate animate or living.[2] The word is ambiguous because it stands for a variety of such operations, but in every case it refers to one of those activities on the part of a thing that is a manifest sign of the presence of soul. This text must be kept in mind, since it will often be utilized as an opposite focus in the dialectical apparatus of St. Thomas against the maxim itself.

II. "The Being of a Thing" in Aristotle

Our problem, then, comes down to this: What is the nexus of Aristotle's equation of life and being for living things? Why is he able to link these two notions? We already have a partial answer in the brief statement that essence (etymologically an excellent translation for *ousia*)—if we mean by it the form or the formal cause of a thing—is the cause of that thing's being. But we must pursue this further by a comparison of the equation itself with other Aristotelian usages.

Axiomatic as the sentence sounds ("To de zên tois zôsi to einai estin"), its elements are not at all striking or out of the ordinary in Aristotle's diction. Compounding the infinitive "to be"—made into a verbal noun by the addition of the definite article—with a possessive dative is a regular usage with him. Although the composition is effected here through the copula ("Living for living things is being"), it appears many times as an independent phrase in a form which would demand as its analogue here *to tois zôsi einai* ("Living is the being of living things"). The meaning of this composite will become clear if we investigate its instances.

In the *Physics* act and potency are contrasted by means of the example of bronze. There is a difference in "the being of" things actual and things potential, and this is explained as a difference of definition. "For the being of bronze and the being of some potency are not the same. If they were identical without qualification, i.e. in definition, the fulfilment of bronze as bronze *would* have been

motion."[3] "Bronze" and "potency" are possessive datives: "Ou gar tauton chalkôi einsi kai dunamei tini". This text would lead us to identify "the being of bronze" with "the definition of bronze" and with "bronze as bronze." Can we actually carry out such an identification?

This contrast of two instances of being, explained as a nonidentity of definition, recalls another text where the indivisible instant of time is said both to divide and to unite the parts of time, while these two functions are not the same "in regard to being"—the infinitive as a noun in the accusative of respect.[4] The implication is that although the subject of the acts, the thing that performs them and underlies

[3]*Physics*, III, 1, 201a31-33. For the Greek text see *Aristotelis Physica*, ed. W. D. Ross (Oxford, 1950). The Oxford translation here and at *Metaphysics*, K, 9, 1065b25—"For it is not the same thing to be bronze and to be a certain potency"—makes excellent English at the cost of the technicalities that might be involved. In general, rather than use the English infinitive at this cost, I prefer "being," which, with an adjective or definite article, is unmistakably a verbal noun, thus answering to *einai*: "the being of bronze," "their being." This allows literal translation of possessives by possessives rather than by predicate nominatives, preserving the expressive and perhaps pointed crudity of Aristotle's usage.

[4]"So the 'now' also is in one way a potential dividing of time, in another the termination of both parts, and their unity. And the dividing and the uniting are the same thing and in the same reference, but in essence (*to einai*) they are not the same" (*Phys.*, IV, 13, 222a17-19). The formal connotation of "being" is well brought out by the trans.

[5]"Being an animal is predicated of being a man—since it is true that in all instances to be human is to be animal, just as it is true that every man is an animal—but not as identical with being man" (*Posterior Analytics*, 4, 91b4-7).

[6]"For 'to be infinite' and 'the infinite' (*to gar apeirôi einai kai apeiron*) are the same, if it is a substance and not predicated of a subject" (*Phys.*, III, 5, 204a23, repeated at *Metaphys.*, K, 10, 1066b13).

[7]"But only the parts of the form are parts of the formula, and the formula is of the universal; for 'being a circle' (*to kuklôi einai*) is the same as the circle, and 'being a soul' (*to psuchêi einai*) the same as the soul. But when we come to the concrete thing, e.g. *this* circle, i.e. one of the individual circles, whether perceptible or intelligible (I mean by intelligible circles the mathematical, and by perceptible circles those of bronze and wood)—of these there is no definition, but they are known by the aid of intuitive thinking or of perception" (*Metaphys.*, Z, 10, 1036a1-6). For the Greek text see *Aristotelis Metaphysica*, ed. W. Jaeger (Oxford, 1957).

[8]"For when we state the essential nature (*to ti ên einai*) of the sphere or circle we do not include in the formula gold or bronze, because they do not belong to the essence (*ousia*), but if we are speaking of the copper or gold sphere we do include them. We still make the distinction even if we cannot conceive or apprehend any other example beside the particular thing. This may, of course, sometimes be the case: it might be, for instance, that only one circle could be found; yet none the less the difference will remain between the being of circle (*to kuklôi einai*) and of this particular circle, the one being form (*eidos*), the other form in matter, i.e. a particular thing" (*De Caelo*, I, 9, 278a 8-11).

them, is the same—although there is a material identity between them, we might say—there is a formal difference. The presence of the "now" has two effects different in nature, in fact again differing formally as the actual and the potential.

In many cases, Aristotle does use "the being of a thing," as expressed by the possessive dative phrase, in such a way as to identify it either explicitly or implicitly with the thing as expressed by its own name. But in each case significant reservations are made. For instance, sentences predicating "the being of one thing" of "the being of another" say the same thing as sentences with the simple names of the things. They can be interchanged—but not their terms.[5] The simple predicate "animal" cannot be identified with "the being of man." Now, "animal" is an indeterminate genus. It would seem that "the being of a thing" is restricted to expressing the species in which it subsists, taken in abstraction from the thing itself. This precludes predicating of it only the indefinite genus. In another case, an explicit identity holds between a thing and its being (again expressed by the composite phrase)—but only if we take the name of the thing to denote a substance and not an accident, say, in the category of quantity.[6] Finally, the same identity depends on our taking the name of the thing to mean its universal definition and not a given particular thing. "Circle" is the being of circle if we do not mean by it this or that circle.[7] The being of circle then becomes perfectly equivalent with "circle" as a universal: circle as circle, circle as such.

All these meanings of being—the species as opposed to the genus in a logical context, substance as opposed to the other categories in a physical context, the universal as opposed to the particular in a metaphysical context—come down to the same thing. To state the being of a thing is to say what that thing is. The being of a thing is to be something, precisely that thing which it is. We call this the essence, the definable nature of the thing.

On the other hand, there are texts using the very same example of the circle which introduce a rather different sort of qualification: the being of a thing, as expressed by the usual phrase, is equated outright with the form.[8] The being of circle is distinguished from circle

precisely as the form is distinguished from a composite of matter with that form. Although an opposition of universal and particular is implied, it is not the central point here, which is that the distinction of form and composite intervenes between a thing and its being. It would seem from this that our compound phrase is merely a way of giving an instance of a certain kind of formal cause. *To einai* with the dative contracts the general Aristotelian term for formal cause, *to ti ên einai*,[9] to the form of a given thing.

If this is the case, then we can no longer identify a thing and its being, as in the previous texts. Thrown into relief against being as form, the name of a thing can only denote the sensible composite, which must then be sharply distinguished from its being, since the sensible composite is not at all its own form.

> Since we can distinguish between a spatial magnitude and what it is to be such (*to megethei einai*), and between water and what it is to be water (*hudati einai*), and so in many other cases (though not in all; for in certain cases the thing and its form are identical), flesh and what it is to be flesh (*to sarki einai*) are discriminated either by different faculties, or by the same faculty in two different states: for flesh necessarily involves matter and is like what is snub-nosed, a this in a this.[10]

[9]Cf., for example, *Metaphys.*, A, 3, 983a27, and Z, H, *passim.*

[10]*De An.*, III, 4, 429b10-14. The exception refers to separate forms, and hence would ordinarily be irrelevant in a physical treatise. However it must be mentioned parenthetically here because of problems peculiar to the soul: *De An.*, I. 1, 403a5-12, 28-29; *Metaphys.*, E, 1, 1026a5-6.

[11]*De An.*, III, 4, 429b18-20. Again the translation is much ampler than the Greek text, but with no damage and indeed a few helpful hints.

[12]As St. Thomas points out, *De Ente et Essentia*, cap. 1; ed. Roland-Gosselin, pp. 3-4.

[13]"First then this at least is obviously true, that the word 'be' or 'not be' (*to einai ê mê einai*) has a definite meaning, so that not everything will be 'so and not so.' Again, if 'man' has one meaning, let this be 'two-footed animal'. By having one meaning I understand this: if man is *this* (*ei tout' estin anthrôpos*), and if something should be a man (*an ei ti anthrôpos*), then this will be the being of a man (*tout' estai to anthrôpoi einai*)" (*Metaphys.*, Γ, 4, 1006a29-33). I have departed from the translation at 11. 32-33 in the interest of preserving the simplicity of the Greek.

[14]"Now if 'man' and 'not-man' mean nothing different, obviously 'not being a man' (*to mê einai anthrôpôi*) will mean nothing different from 'being a man;' so that 'being a man' (*to onthrôpôi einai*) will be 'not being a man;' for they will be one. For being one means this—being related as 'raiment' and 'dress' are, if their definition is one. And if 'being a man' and 'being a not-man' are to be one, they must mean one thing" (*ibid.*, b22-27).

Here "the being of a thing" is set off from the name of that thing. The Oxford translation well brings out its reference to the formal cause by giving it an equivalent ("what it is to be such") actually more apt to English the *ti ên einai*. The identification of being and formal cause is made explicit in the continuation of this passage.

> Again in the case of abstract objects what is straight is analogous to what is snub-nosed; for it necessarily implies a continuum as its matter; its constitutive essence (*to ti ên einai*) is different, if we may distinguish between straightness (*to euthei einai*) and what is straight (*to euthu*).[11]

Is there any contradiction between these two meanings of "the being of a thing"? The same ambiguity is involved in the English "essence" or the Latin *essentia*. This term can refer either to what a thing is—as expressed in the definition, which is given the same name as the thing—or to the formal principle which makes it be what it is. The latter sense corresponds to Aristotle's form or formal cause[12] and is well qualified "constitutive" essence as causing the thing to have a certain nature. Only this ambiguity justifies the use of "essence" to translate Aristotle's *to ti ên einai*. In that sense, it takes the abstract form, not "man" but "humanity," not "the straight" but "straightness," not "circle" but "circularity;" just as Aristotle's phrase "what-being-is" can be regarded as an abstract form of *einai*, something like "beingness."

III. Being, Essence, and Form in the "Metaphysics"

An investigation of the relation between being and form in a few salient texts of the *Metaphysics* will clarify this situation and indicate the very reason within Aristotle for the ambiguity of the expression "the being of a thing." The dialectical defense of the first principle of demonstration makes it evident that he is still consistently thinking of being as essence. Being has definite content; "to be" means "to be so." Being means to have predicates; the verb itself functions only as a copula. The definition of "man," what a man is, corresponds perfectly to "the being of man."[13] Hence the identification of the compound phrase with the name of the thing as signifying its essence runs all through this passage.[14] The being of things depends upon the

predicates that follow the verb "is;" it depends on what they are. If they are one in definition, they are one in being. "Man" and "the being of man" are perfectly equivalent if the former signifies the nature common to all men.

And yet those who do away with this definite content for being, being as whatness or essence, are said later on to be doing away with the formal cause. Those who disregard being as essence disregard the "what-being-is." And here our compound phrase for being seems to align not with what a thing is but with the formal cause, as the translation well brings out.[15] What is the connection? Why is it that the denial of being as essence involves the denial of being as form? And why can the word itself be used for both essence and form?

The answer is that form causes the being of a thing. It is the principle that puts a thing in possession of its essential predicates and hence gives it its "being."

> Thus the inquiry is about the predication of one thing of another. And why are these things, i.e. bricks and stones, a house? Plainly we are seeking the cause. And this is the essence (*to ti ên einai*), to speak abstractly, which in some cases is the end, e.g. perhaps in the case of a house or a bed, and in some cases is the first mover; for this is also a cause.[16]

Form is more fundamental than the being (what they are) of the composite things. Or rather, as the primary *cause* of being in this first and most general sense, it *is* being in a more fundamental sense, whence its name, "what-being-is." It underlies the being-something

[15]"And is general those who say this do away with substance and essence (*ousian kai to ti ên einai*). For they must say that all attributes are accidents, and that there is no such thing as 'being essentially a man' or 'an animal' (*anthrôpôi einai ê zôiôi einai*). For if there is to be any such thing as 'being essentially a man' this will not be 'being a not-man' or 'not being a man' (yet these are negations of it); for there was one thing which it meant, and this was the substance (*ousia*) of something. And denoting the substance of a thing means that the essence of the thing (*to einai autôi*) is nothing else" (*ibid.*, 1007a20-27).

[16]*Metaphys.*, Z, 17, 1041a25-32. "Essence" in the translation is used in the restricted sense, as the Greek indicates: "constitutive essence," formal cause.

[17]*Ibid.*, b 2-9, with "being" instead of "existence" in the first line. This occasional anachronistic use of terms connoting an existential sense of being is the Oxford translation's only real fault.

or the possession of definite essences by things and hence itself more properly deserves the name of being, expressed in a precise fashion. It is "what being is for the thing" rather than "what the thing is" (being in the immediate concrete sense). "The being of a thing" will then be used to refer to a given expression of being, an essence specified by the possessive modifier—although since the form is the cause of that being in the concrete composite, the very same phrase may at times be used for the form.

Being in the sense of essence is already there and given. It is what the thing is. To ask the why of the what-is is to ask the form, which makes things be what they are.

> Since we must have the being of the thing (*to einai*) as something given, clearly the question is why the matter is some definite thing (*ti estin*); e.g. why are these materials a house? Because that which was the essence of a house (*ho ên oikiai einai*) is present. And why is this individual thing, or this body having this form, a man? Therefore what we seek is the cause, i.e. the form (*eidos*), by reason of which the matter is some definite thing (*ti estin*): and this is the substance (*ousia*) of the thing.[17]

This text contains a striking phrase which neatly circumvents any ambiguity in the use of the infinitive with possessive. When it comes to giving an example of a house and naming its formal cause, Aristotle uses the precise expression for being, *to ti ên einai*, modified by the possessive of "house." It is almost as though our compound phrase were here expanded into what should be its full form in its more basic meaning. The formal cause "houseness" is better called "what-being-is for a house" than "the being of a house."

Speaking of what makes flesh flesh as other than its elements and what makes a syllable a syllable as other than its letters, he continues:

> But it would seem that this "other" is something, and not an element, and that it is the *cause* which makes *this* thing flesh and *that* a syllable (*aition ge tou einai todi men sarka todi de syllabên*). And similarly in all other cases. And this is the sub-

stance (*ousia*) of each thing, for this is the primary cause of its being (*aition prôton tou einai*).[18]

The sentences "This is flesh" and "That is a syllable" fall right into the infinitive-accusative construction when one asks why they are true—what makes it true *that* this is flesh. Aristotle gives this infinitive a definite article, implying that the being of things is what they are, and says that the cause of this is form, not the material constituents.

In sum, "the being of a thing" ordinarily stands for what we would call essence. The cause of being in this sense is form. The latter may also be denoted as "the being of a thing," if by "a thing" we now mean the name as denoting the essence, and not an individual composite. In English, we might say that the essence of a house, what a house is, is "the being of *a* house;" while the formal cause that makes it to be a house, "houseness," is "the being of house (in general)."

IV. The Aristotelian Interpretation of the Maxim

We are now equipped to interpret the maxim of the *De Anima*. In this context, there is a term at hand which can be given the technical sense of form, and we will not have to use the abstract expression of being to denote the formal cause of animate things. In them the

[18] *Ibid.*, 11. 25-27. See the previous text for the use of *ousia* to mean only form (not essence) in any context where it is being opposed to materials and elements.

[19] "Dicit quod hoc nomen actus, quod ponitur ad significandum endelechiam et perfectionem, scilicet formam, et alia hujusmodi, sicut sunt quaecumque operationes, veniunt maxime ex motibus quantum ad originem vocabuli. Cum enim nomina sint signa intelligibilium conceptionum, illis primo imponimus nomina, quae primo intelligimus, licet sint posteriora secundum ordinem naturae. Inter alios autem actus, maxime est nobis notus et apparens motus, qui sensibiliter a nobis videtur. Et ideo ei primo impositum fuit nomen actus, et a motu ad alia derivatum est" (St. Thomas, *In IX Metaphys.*, lect. 3; ed. Cathala, No. 1805).

[20] "Sed alia est ratio aeris inquantum aes, et alia est ratio aeris inquantum habet aliquam potentiam. Et hoc est quod dicit quod non est idem aeri esse et alicui potentiae" (*In XI Metaphys.*, lect. 9; Cathala No. 2296). ". . . idem est infinito esse et infinitum, si infinitum est substantia, id est si infinitum praedicat propriam rationem ejus quod est infinitum" (*ibid.*, lect. 10; No. 2325).

[21] "Sciendum autem est, quod in omnibus sequentibus per hoc quod dicit Hoc esse, vel Huic esse, intelligit quod quid erat esse illius rei; sicut homini esse vel hominem esse, intelligit id quod pertinet ad quod quid est homo. Quod est autem musicum esse, id est hoc ipsum quod quid est musicus, non pertinet ad hoc quod quid es tu. Si enim quaeratur, tu quid sis, non potest responderi quod tu sis musicus. Et ideo sequitur quod musicum esse non

cause of being (and the primary instance of being in the living composite) is the soul. It is what actualizes and constitutes the animal or plant as alive. In short, it makes it to be what it is, a living thing. The ambiguity of being as both essence and form need not confuse us here. Being in the concrete sense, contracted by the possessive to a given thing which is such a sort of thing, need only express the essence or definable nature.

The connection between this and the infinitive "to live" is at once obvious. We need not invoke any other sense for "living" or "life" than that of operations by animate things, the sense recognized by Aristotle. The nature of a thing is the principle of its operations. Essence is known by the operations of the thing as they appear to us. Known by its acts, it can be denominated by them.[19] When a thing lives, or acts with vital operations, we say it is "alive" or "animate." This is its essence or nature; so this is its being. For things which live, life is their being. If being is what-is, to say "a living thing is" is to say "a thing is alive." The soul, as the cause of life, is the cause of being in this case, whence it is form. It gives to living things their essence; it makes them to be what they are, "alive."

To all appearances, this is exactly the interpretation St. Thomas gives in his commentaries on Aristotle. In the first place, he knows full well what Aristotle's meaning for the infinitive "to be" is. He is not unaware of the notion of being delineated above. In two of the instances in the *Metaphysics* he simply parrots the usage of *einai* (*esse*) with a possessive dative.[20] Both these comments take it for granted that the *esse* of a thing expresses its proper *ratio*, the essence or essential content proper to it as such a thing. This is precisely how he explained Aristotle's vocabulary earlier in the same commentary, noting that the infinitive "to be" with the possessive refers to the essence or quiddity of a thing, using for this last a Latin translation of the Aristotelian technical expression for formal cause, *quod quid erat esse*. St. Thomas is concentrating, then, on the more basic and technical sense of "the being of a thing:" the formal principle, or essence as constitutive. "The being (*esse*) of man" means all that which pertains to the form of humanity. Being is entirely reduced to quiddity and based on the question what a thing is.[21]

In his commentary on the *De Anima*, St. Thomas gives us a perfect paraphrase not only of the maxim, but of the whole body of reasoning in which it appears as one of the premises.

> He proves . . . that the soul is cause of the living body as its form by two arguments, of which the first is as follows. The cause of something as its substance, that is its form, is that which is the cause of its being. For it is because of its form that each thing actually is. But the soul is the cause of being for living things; for it is because of their soul that they live, and that very living is their being (*esse*). Therefore the soul is cause of the living body as its form.[22]

This is pure Aristotelianism. There is even a trace of Aristotle's use of *ousia* for form in the apposition of *substantia* and *forma*. The doctrine that form is the cause of being is repeated without qualification. There may be reason elsewhere to suspect that the Thomistic causality of being by form is different from the Aristotelian, but there is no indication of that here.[23] "Everything actually is through its form." Nothing could be simpler. Especially in the light of the other Aristotelian commentary cited above, we have no grounds for interpreting *esse* as *vivere viventium* any differently here than in Aristotle. *Esse* in this place is being as essence.

est tibi esse; quia ea quae pertinent ad quidditatem musici, sunt extra quidditatem tuam, licet musicus de te praedicetur" (*In VII Metaphys.*, lect. 3; No. 1310).

[22]"Probat . . . quod anima sit causa viventis corporis, ut forma: et hoc duplici ratione: quorum prima talis est. Illud est causa alicujus ut substantia, id est, ut forma, quod est causa essendi. Nam per formam unumquodque est actu. Sed anima viventibus est causa essendi; per animam enim vivunt, et ipsum vivere est esse eorum: ergo anima est causa viventis corporis, ut forma" (*In II de An.*, lect. 7; ed. Pirotta, No. 319). The use of a bizarre Latin gerund, *essendum*, indicates nothing, for it translates *einai* just as does *esse*. All three are equivalent verbal nouns.

[23]See the qualified statement of the *De Ente*, cap. 1; ed. Roland-Gosselin, p. 10: ". . . quamvis huius esse *suo modo* forma sit causa" (italics mine).

[24]"Uno modo dicitur esse ipsa quidditas vel natura rei, sicut dicitur quod definitio est oratio significans quid est esse: definitio enim quidditatem rei significat. Alio modo dicitur esse ipse actus essentiae; sicut vivere, quod est esse viventibus, est animae actus; non actus secundus, qui est operatio, sed actus primus. Tertio modo dicitur esse quod significat veritatem compositionis in propositionibus secundum quod est dicitur copula; et secundum hoc est in intellectu componente et dividente quantum ad sui complementum; sed fundatur in esse rei, quod est actus essetiae" (*In I Sent.*, d. 33, q. 1, a. 1, ad 1; ed. Mandonnet, I, 766).

[25]"Forma, quae est actus primus, est propter suam operationem, quae est actus secundus" (*ST*, I, q. 105; a. 5; ed. Leon.)

V. The Treatment of the Maxim in the "Sentences"

If any deviation from the Aristotelian significance of this axiom is going to appear anywhere, it will be in the works professing to teach St. Thomas's own doctrine. In the earliest of these, the *Scriptum super Sententiis*, we find indeed a number of citations of the Aristotelian maxim. If we can obtain a consistent picture of St. Thomas's treatment of it and its concurrent implications in this early work, we can go on to later works and trace there the fate of both.

The text frequently cited in this work for the meaning of being (*esse*) makes use of the maxim to exemplify the second meaning given. The first meaning conforms perfectly well to Aristotle's *einai*.[24] The being of a thing is its quiddity or nature, what it is as expressed by the definition. These are all notions which Aristotle himself had linked to being (as essence). St. Thomas also uses for this a term that Aristotle had reserved for the formal cause (*quid est esse*, again the *ti ên einai*). This need not surprise us, since being was ambiguous in Aristotle too, as essence and form. *Esse*, then, can mean essence both as what the thing is and the principle which makes it be such.

The second sense is expressed in rather strange fashion. To an Aristotelian there is a notable confusion of language in these few lines. "Being (*esse*) in another way means the very act of the essence; as living, which is being for living things, is the act of the soul; not second act, which is operation, but first act." This would seem to refer to form (the usual meaning of "first act"),[25] but was not form somehow included in the first sense? Besides, what is the maxim doing here, rather than under the first sense? For Aristotle, *esse* definitely did not mean form in this phrase, since the form was the soul; rather, it meant the nature of living things. St. Thomas seems to mean that being is even the act of the form, *actus animae*. By itself, this could mean the act that the form causes, the actuality of the composite, as easily as some sort of act that constitutes the form. And yet soul and essences are thrown into parallel positions: both have an act called *esse*. As form constitutes essence, so something called *esse* constitutes and actualizes both form and essence. The situation is further confused by the identification of *est* as the copula in the third

meaning of *esse*. Being as essence should then suffice for the foundation of propositions ("a thing is such-and-such"); but instead this *actus essentiae* is invoked. Form as the cause of whatness is indeed the reason why a predicate can be said of a given subject, but is this act of essence form? Something is awry here, and only other texts can indicate why.[26]

An earlier use of the maxim runs far more true to Aristotle. The implication leaps out that form is the cause of being because it is the cause of life in living things.[27] The statement that the soul causes the life and being of the body *formaliter* might lead us to qualify this; perhaps it causes being "after the manner of a form." But this is only one of many possible meanings, among them the inimical "absolutely" or "strictly speaking." This relation of soul and body St. Thomas clarifies better elsewhere by comparing it with creation.[28] The "presence" of the soul in the body is not like the "presence" of God in creatures. In creation being is conferred by the divine operation, but it is not the divine being; the being of a creature is its own. The being of the body, however, conferred by the soul, is the soul's own. Why is it that the soul can confer its own being on the body in this way? Because being is the "act of the form," as St. Thomas says unequivocally. Is this the act of actualizing the composite? That seems unlikely, because again being is said to be the act both of the form and the composite. A form becomes a form of matter by giving it *its* act, which then becomes *the act of* both. And this being would

[26]We can agree with Gilson that this text alone does not allow us to conclude to an act of existing in St. Thomas, but we cannot agree that it moves "on an authentic Aristotelian plain of substantial being," wherein *esse* as *actus essentiae* is the form (*L'être et l'essence* [Paris, 1948], p. 91).

[27]"Anima comparatur ad corpus . . . etiam ut forma; unde formaliter seipsa facit vivere corpus, secundum quod vivere dicitur esse viventium" (*In I Sent.*, d. 17, q. 1, a. 1, ad 2; ed. Mandonnet, I, 395).

[28]"Aliquando vero substantia spiritualis dat per operationem corpori esse; non tamen suum esse, sed aliud; et hoc modo Deus est in omnibus creaturis quibus dat esse sed non suum. Aliquando dat corpori ipsum suum esse; sed hoc contingit dupliciter: quia esse et est actus formae, et est actus hypostasis. Unde substantia spiritualis potest conferre rei corporali esse suum inquantum est actus formae, ut sic forma ipsius efficiatur; et hoc modo anima est in corpore" (*ibid.*, d. 37, q. 3, a. 1, sol.; I, 871).

[29]". . . essentia dicitur cujus actus est esse . . . Hoc autem dicitur dupliciter . . . Esse enim est actus alicujus ut quod est, sicut calefacere est actus calefacientis; et est alicujus ut quo est, scilicet quo denominatur esse, sicut calefacere est actus caloris" (*ibid.*, d. 23, q. 1, a. 1, sol.; I, 555).

seem to be conferred absolutely only by God and relatively by the form. This is not in the Aristotelian terms of being *as* form giving being to the composite but *the* being *of* form giving being to the composite through the form.

Perhaps some light may be cast on the meaning of this last notion by a comparison with some noteworthy texts in the *Sentences* where St. Thomas uses close analogues of the Aristotelian maxim to explain what he means by *esse*.

> Essence means that whose act is to be . . . But this has a twofold sense . . . For to be is the act of something, both as the thing that is, as to heat is the act of *what heats*, and also as the principle by which it is, that is by which its being (*esse*) is named, as to heat is the act of *heat*.[29]

The divergence from Aristotle is unmistakable here. "To heat" is the act of "a heater," just as to live is the act of the living. In parallel with this, being or to be is the act of essence. But that is not all. It is compared to heating as also the act of heat. It is the act of anything that is, whether that be substance or a principle of substance. For Aristotle the act of a thing was its formal principle. The very being (*to ti ên einai*) of "a heater" was "heat," "hotness" itself. For St. Thomas, however, this act has its further act of being. Being is given a very dynamic sense by his consistent comparison of it with operation, even when faced with the actuality of form. It is an act even beyond form, although for a reason yet unclear it can be denominated in terms of form.

It would seem that the analogue of operation comes to St. Thomas's mind wherever he is called on to delineate the relation between essence and being.

> To be means that which belongs to the nature of a thing, and according to which it is distributed in the ten genera. And this being is indeed in the thing, and is an act resulting from the principles of the thing, as to illuminate is the act of what illumines. Nevertheless at times to be is taken for the essence according to which a thing is, since it is by the acts that their

principles are customarily designated, as the potency or capacity for them.[30]

This is paradoxical. *Esse* in the first sense here given clearly is not essence, for that is its second sense. It is still an act *of* the essence, to which the latter is related as a potency or capacity is related to the corresponding operation. And yet it so intimately belongs to the essence that by it a thing can be located in the categories. Is it then "colored" by the essence? Even more, it is caused by the essence as its principle; it is a result of the essential constituents of the thing. This at least means that essence specifies being to a definite sort of being. Since to be is made so unequivocally verbal by this constant comparison with operations, perhaps it would be better to speak of essence specifying it to a definite *manner* of being—an adverbial "how" rather than a kind or class.

In any case, these classifications of the meaning of being make it clear that whether essence means substance or formal cause, it is still subject to an act of being beyond it. This act is not the essence itself in either of its senses. That is why, when St. Thomas says *esse essentiae*, he does not mean essential being, in the sense of the being that the essence is in its own right (descriptive genitive), or even form but simply the being of an essence by which it is made actually to be (possessive genitive). When on his own he feels not at all compelled to use *esse* in any way parallel to Aristotle.[31] His willingness to recognize a sense of *esse* as essence in most of the texts above stemmed from their connection with a reference to a passage in the *Metaphysics* defining the senses of being.

Given that being resembles operations in being caused by the essence—or better yet, caused by the essence as they are by their

[30]"Alio modo dicitur esse quod pertinet ad naturam rei, secundum quod dividitur secundum decem genera. Et hoc quidem esse in re est, et est actus resultans ex principiis rei, sicut lucere est actus lucentis. Aliquando tamen esse sumitur pro essentia secundum quam res est; quia per actus consueverunt significari eorum principia, ut potentia vel habitus" (*In III Sent.*, d. 6, q. 2, a. 2, resp.; ed. Moos, p. 238).

[31]See, for example, *ibid.*, ad 2m.

[32]"Vita dicitur dupliciter. Uno enim modo vita idem est quod esse viventis, ut in II De Anima dicitur, quod vivere viventibus est esse; et hoc modo vita hominis relinquitur ex conjunctione animae ad corpus . . . Alio modo dicitur vita operatio rei viventis" (*In II Sent.*, d. 38, q. 1, a. 2, ad 3m; II, 972).

[33]"Vivere uno modo dicitur esse viventis. Et hoc modo vivere non est per potentias, sed per essetiam animae" (*In III Sent.*, d. 33, q. 2, a. 4, sol. 1, ad 3; p. 1062.

faculties—we must realize that the parallel is not complete. For some reason having to do with the peculiar characteristics of being, it can only be called an "act" in an equivocal sense, not implying the notion of activity. However, only in an offhand way do we find this expressed in the *Sentences*, as a distinction intervening between *vita* or *vivere* in the ordinary sense of vital operations and in the sense in which it is used in the Aristotelian maxim.[32] (This in spite of the fact that the latter is described as though it were merely a denomination of the essence of the thing and constituted at once by the conjunction of the essential principles, body and soul.) This is strange indeed, for no such distinction was stated or required by Aristotle, who habitually denoted essences by their characteristic operations. But again it is the *esse* of the living thing that is at stake, and we have seen the ambiguities this has in the *Sentences*. If this act is not operation or the essence (even as form) but the act of the essence already described, we will need indeed a novel technical sense of "life" to cover it. That such is the case is clear in another text giving the same distinction.[33] *Vivere* as *esse* in the maxim is not the operations exercised through the powers of the soul, not even if those stand for the essence. It is an act exercised *through* the essence of the soul, just as vital operations are exercised through its faculties. Essence again is to being as faculties to operations, at least a specifying principle.

There are elements in this complex of early doctrines that clearly mark St. Thomas as infusing a new meaning into Aristotle's maxim. But they are indistinct and unorganized. Things are stated in a way that confuses a demanding modern reader. The language is rough and imprecise where it expresses the new contributions, and seems at other times bent into conflicting terms to avoid the appearance of departure from Aristotle. Many questions are occasioned by these texts. What does "first act" mean for St. Thomas? Can this description be applied exclusively to the form or only to the form in a specialized sense as a principle of actions (the other acts)? What is the meaning of the statement that the life of man follows on the conjunction of soul and body, particularly if that be life as being or "the act of the essence"? And why is it necessary to distinguish a twofold technical

sense of "life"? Can this be applied to the other activities here given, "lighting" and "heating"?

VI. The Interpretation of the Maxim in the Later Works

The chief point which we must investigate, which is involved in all these questions, is the relation of essence, form, and being as it operates in the background of the maxim when it is used in the later works. The least we can expect from St. Thomas here is an increase in precision and clarity of language, so that his own proper doctrine will stand out independent of the modes of expression of his authorities.

The first thing to realize is that Aristotle continues to survive intact. The maxim is taken whole into St. Thomas's teaching, along with the implication that form is the cause or "principle" of being.[34] But on these very occasions, St. Thomas sometimes manifests discontent with the analogy of faculties and operations. "To be is related to form as an immediate consequence following upon it: but not as an effect is related to the power of an agent, say motion to the power of a mover."[35] It would seem to be precisely the element of agent causality

[34]"Principium enim vitae in omnibus viventibus est forma substantialis: 'vivere enim est esse viventibus,' ut Philosophus dicit in II De Anima" (*CC*, III, cap. 104; ed. Leon., No. 8). ". . . anima dicitur forma corporis inquantum est causa vitae, sicut forma est principium essendi; vivere enim viventibus est esse, ut dicit Philosophus in II De Anima" (*De An.*, a. 14, ad 8; ed. Mandonnet, *Quaest. Disp.*, III, 167).

[35]". . . esse comparatur ad formam sicut per se consequens ipsam; non autem sicut effectus ad virtutem agentis, ut puta motus ad virtutem moventis." *Ibid.*, ad 4m, p. 166.

[36]"Sed ulterius posuit Plato quod anima humana non solum per se subsisteret, sed quod etiam haberet in se completam naturam speciei. Ponebat enim totam naturam speciei in anima esse, dicens hominem non esse aliquid compositum ex anima et corpore, sed animam corpori advenientem; ut sit comparatio animae ad corpus sicut nautae ad navem, vel sicut induti ad vestem. Sed haec opinio stare non potest. Manifestum est enim id quo vivit corpus animam esse, vivere autem est esse viventium: anima igitur est quo corpus humanum habet esse actu. Hujusmodi autem forma est. Est igitur anima humana corporis forma" (*De An.*, a. 1; III, 94). "Quod autem ut forma propria anima corpori uniatur, sic probatur. Illud quo aliquid fit de potentia ente actu ens, est forma et actus ipsius. Corpus autem per animam fit actu ens de potentia existente: vivere enim est esse viventis . . . Est igitur anima forma corporis animati" (*CG*, II, cap. 57, under the heading "Positio Platonis de unione animae intellectualis ad corpus").

[37]"Vivere autem viventium est ipsum esse eorum . . . cum enim ex hoc animal dicatur vivens quod animam habet, secundum quam habet esse, utpote secundum propriam formam, oportet quod vivere nihil sit aliud quam tale esse ex tali forma proveniens" (*CG*, *I*, cap. 98).

implied that makes this analogy unsatisfactory. Is it that St. Thomas means to allow the form to wreak on its being only some sort of formal causality or specification?

In many cases, the maxim proves as it does in Aristotle that the soul is the form of the body. These passages usually follow, as would be expected, a citation and discussion of the "Platonic position" that man is the soul and that the unity of soul and body is only accidental. The maxim is used in conjunction with the statement that form is the *quo*, or principle through which, matter (such as the human body) has actual being (*esse actu*) or becomes an actual rather than simply potential being (*actu ens*).[36] Aristotle's argumentation seems to be reproduced in its entirety.

From the easy and offhand uses of the maxim like this, no one would think at first that the doctrine was non-Aristotelian. But it is noteworthy that here the causality of being by the form is described only in regard to the matter; nothing is said one way or another about the composite. When it comes to speaking of the whole living animal, St. Thomas makes it clear that the justification for his notion that form causes being is different from that of Aristotle. The act that we have seen to be an act just as much of form as of essence is not unreservedly caused by form.

> The life of living things is their very being . . . for since an animal is said to be alive because it has a soul, according to which it has being (since this means according to its proper form), living must be nothing else than this sort of being (*tale esse*) flowing out of this sort of form.[37]

A thing has the nature "living," is defined as "alive," because it has a form which is a soul. This form causes the thing to be what it is, and therefore the thing is said to be according to its form—after a manner fixed by its form. A form which is of a given sort makes a thing have that sort of being. Life is being as it comes under the influence of a vital form.

Being is determined to be of a specific sort not only by form or essence in the strict sense, but also by essence in the broad sense (nature).

> Nothing can be added to being (*esse*) which might be outside it, since nothing is outside it but non-being (*non ens*), which can neither be form nor matter. Therefore to be is not made determinate by something else as potency is by act, but more as act is by potency. For even in the definition of forms their proper matters are put in the place of the specific difference, as for example when we say that the soul is the act of a physical organic body. And in this way is one being (*esse*) distinguished from another, inasmuch as it is the being of one or another nature.[38]

This "being" definitely is not therefore what the thing is. It is an act relative to which nothing can be called an act, since it contains all perfection, and nothing new is extrinsic to it. It is limited by the potency it realizes. Hence we can define it the same way we define forms and set them off from one another, by pointing to the matter which they actualize, "act of such-and-such matter." In itself unlimited and undifferentiated,[39] being can be defined as of one or

[38]"Nihil autem potest addi ad esse quod sit extraneum ab ipso, cum ab eo nihil sit extraneum nisi non ens, quod non potest esse nec forma nec materia. Unde non sic determinatur esse per aliud sicut potentia per actum, sed magis sicut actus per potentiam. Nam et in definitione formarum ponuntur propriae materiae loco differentiae, sicut cum dicitur quod anima est actus corporis physici organici. Et per hunc modum hoc esse ab illo esse distinguitur, in quantum est talis vel talis naturae" (*De Pot.*, q. 7, a. 2 ad 9; II, 254).

[39]"Esse autem, inquantum est esse, non potest esse diversum: potest autem diversificari per aliquid quod est praeter esse" (*CG*, II, cap. 52).

[40]". . . hoc quod dico esse est inter omnia perfectissimum: quod ex hoc patet quia actus est semper perfectior potentia. Quaelibet autem forma signata non intelligitur in actu nisi per hoc quod esse ponitur. Nam humanitas vel igneitas potest considerari ut in potentia materiae existens, vel ut in virtute agentis, aut etiam ut in intellectu: sed hoc quod habet esse, efficitur actu existens. Unde patet quod hoc quod dico esse est actualitas omnium actuum et propter hoc est perfectio omnium perfectionum" (*De Pot.*, q. 7, a. 2, ad 9; II, 254).

[41]". . . secundum Dionysium . . . aliter est in participationibus et in participantibus. Participationes enim quanto sunt simpliciores, tanto nobiliores, sicut esse quam vivere, et vivere quam intelligere, ut fiat comparatio inter esse et vivere, separato per intellectum esse a vivere" (*De Ver.*, q. 20, a. 2, ad 3; I, 494). "Et per hoc dicit Dionysius quod licet viventia sint nobiliora quam existentia, tamen esse est nobilius quam vivere" (*De Pot.*, q. 7, a. 2 ad 9; II, 254).

[42]"Omne autem aliud esse quod non est subsistens, oportet quod individuetur per naturam et substantiam quae in tali esse subsistit. Et in eis verum est quod esse hujus est aliud ab esse illius per hoc quod est alterius naturae" (*ibid.*, ad 5m; II, 253).

another sort by what it makes to be, "act of such-and-such a thing or nature." Life, then, is the being of a living nature.

The reason for all this is of course St. Thomas's notion of being as taken in itself. *Esse* is "the most perfect of all things," indeed the root of all the perfections in a thing; in other words, "the actuality of all acts." Why? Because no form whatever can be said to be in act "except through this, that it be said *to be*." It can be regarded in several considerations, but none of these finds it "actually existent"—which is brought about only by the fact that it has esse.[40] Clearly, being is act prior to the form, on which the form depends for its entire actuality, even as a form. That is why in itself being is more perfect than in any of its qualified manifestations. St. Thomas emphasizes that this consideration of the act of being apart from any qualification requires forming an abstraction of the act (his interpretation for the Neoplatonic materials he uses).[41] Only when *esse* is separated from *vivere* by the intellect can it be regarded as more perfect. All we ordinarily know are things that are; and in these being is made specific, definite, limited, individual (generally distinct from other ways of being) by the nature, indeed by the whole substance.

> Every other being (*esse*) which is not subsistent must be individuated by the nature and by the substance which subsists in that sort of being (*esse*). And in them it is true that the being of one thing is different from the being of another because it is the being of another nature.[42]

This can cast some light on the meaning of form as first act. If being is the act that grounds every actuality in a thing, form can be first act only in a relative sense. But there are various orders to consider. First, if "act" has the sense of action alone, then every principle of action perfected by it can be called a potency, be that a faculty or even the essence itself. And yet this whole order or genus of action is related to form as a secondary sort of act. As the principle that makes its matter to be and enables its proper operations, form stands against them as the source of the realization of the composite. In this context, "first act" in a living thing is not so much *vivere* (as was said in the *Sentences*) but *vivificare*, what the soul does to the

body as form to matter.[43] It is first act relative to matter and operations, which it constitutes as living, passing on to them the life (the sort of being) that it has. And yet, compared to its own being, it can hardly be called act but must again be thrown into the position of potency relative to the act of all acts. This is often described as a twofold relation of act and potency in composite things.[44]

Nevertheless, St. Thomas has never used the analogue of matter and form for essence and being except on the question of definition, no doubt because in such a proportion all the dynamism implied in the act of being would be lost. There is one reason why it might almost serve better than the analogue of faculty and operation, though, the same reason why the latter keeps breaking down. That is because in the case of essence and being the two are inseparable, or only separable by the intellect, as we saw above; while a faculty and its act are separable. Not only does the order of action imply too much of efficient causality but also the condition of having a power without always acting. An agent can be an *agent* without *acting*. Nothing, however, can be a *thing* without first of all (and most important in its constitution) *being*. Being belongs to a nature even if it is to be a nature. And so being and essence can be spoken of indifferently

[43]". . . omne illud quod est principium actionis, ut quo agitur, habet potentiae rationem; sive sit essentia, sive aliquod accidens medium, puta qualitas quaedam inter essentiam et actionem . . . Quia vero anima vivificat corpus, est per essentiam animae. Sed vivificare, licet per modum actionis dicatur, non tamen est in genere actionis, cum sit actus primus magis quam secundus" (*Ibid.*, 2, 1, ad 6m; II, 25-26).

[44]"Unde in rebus compositis est considerare duplicem actum, et duplicem potentiam. Nam primo quidem materia est ut potentia respectu formae, et forma est actus ejus; et iterum natura constituta ex materia et forma est ut potentia respectu ipsius esse, in quantum est susceptiva ejus. Remoto igitur fundamento materiae, si remaneat aliqua forma determinatae naturae per se subsistens, non in materia, adhuc comparabitur ad suum esse ut potentia ad actum: *non dico autem ut potentiam separabile ab actu, sed quam semper suus actus comitetur*" (*De Spir. Creat.*, a. 1; III, 28 [italics mine]).

[45]"Manifestum est enim quod id quod secundum se convenit alicui, est inseparabile ab ipso. Esse autem per se convenit formae, quae est actus. Unde materia secundum hoc acquirit esse in actu, quod acquirit formam: secundum hoc autem accidit in ea corruptio, quod separatur ab ea. Impossibile est autem quod forma separetur a seipsa. Unde impossibile est quod forma subsistens desinat esse" (*ST*, I, q. 75, a. 6).

[46]". . . duplex est principium vitae corporalis. Unum quidem effectivum. Et hoc modo Verbum Dei est principium omnis vitae. Alio modo est aliquid principium vitae formaliter. Cum enim vivere viventibus est esse . . . sicut unumquodque formaliter est per suam formam, ita corpus vivit per animam. Et hoc modo non potuit corpus vivere per Verbum, quod non potest esse corporis forma" (*ibid.*, III, q. 2, a. 5 ad 3).

when specifying a type of thing, since being is never found without the principle of its specification. Essence is "a potency which its act always accompanies."

This is why the life of man, even when taken to mean his very being, can still be regarded as being constituted by the conjunction of soul and body. This does not mean, except secondarily, that his essence is thereby constituted. The soul is regarded as already possessed of its being (in the order of causality) when it "comes to" the body (this cannot be understood in a temporal sense), since form and being are inseparable. Man, then, is truly made *to be* by this composition, since one of the elements necessarily brings being with it. Only incidentally is he thereby made *to be man*, having human nature.

> It is obvious that that which essentially (*per se*) belongs to something is inseparable from it. But to be essentially (*per se*) belongs to form, which is act. Therefore matter receives being in act insofar as it receives form; while corruption takes place in it insofar as it is separated from form. But it is impossible that form be separated from itself. Hence it is impossible that a subsistent form should cease to be.[45]

No language could be stronger. "Form is act" means that the bond between form and being is so strong that a subsistent form can no more be separated from being than it can from itself. Form essentially is.

This uniquely Thomistic interpretation of Aristotle's doctrine that form is the cause of being to the composite is expressly stated in conjunction with the maxim of the *De Anima* at one point. Life has a twofold causality exerted upon it. It has both an "effective" and a "formal" principle. When we mean by it the very being of living things, the soul only causes it "formally" (*formaliter*). Form does not make a living thing be absolutely, but only makes it be alive. The cause of being in the order of efficiency, what purely and simply makes a thing to be, is the creative Word of God.[46]

VII. The Distinction of two Meanings of "Vivere"

A point of doctrine which St. Thomas himself seems to develop more and more consciously in the course of his career has yet to be made clear; namely, the technical sense of "life" as used to mean the act of being in his version of Aristotle's maxim. The clearest statement of this teaching is found in the *Summa*, under an article entitled "whether life is a kind of operation."[47] The treatment sets out as its background a doctrine we have already seen him draw from Aristotle while commenting on the *Metaphysics*. In the ordinary mode of knowing, sensible properties lead us to knowledge of the quiddities of things. "It is from these accidents which outwardly appear about a thing that we come to know its essence." Thus a name taken from an operation can with no trouble be transferred to signify the nature of the substance that so operates. "Life" ordinarily means self-motion, which is a superficial property of a thing, apparent to us precisely because it is "on the surface." Meaning immanent activity, it is transferred to the substance of those things which operate immanently.

[47]"Intellectus noster, qui proprie est cognoscitivus quidditatis rei ut proprii obiecti, accipit a sensu, cuius propria obiecta sunt accidentia exteriora. Et inde est quod ex his quae exterius apparent de re, devenimus ad cognoscendam essentiam rei. Et quia sic nominamus aliquid sicut cognoscimus illud, . . . inde est quod plerumque a proprietatibus exterioribus imponuntur nomina ad significandas essentias rerum . . . Sic ergo dicendum est de vita. Nam vitae nomen sumitur ex quodam exterius apparenti circa rem, quod est movere seipsum: non tamen est impositum hoc nomen ad hoc significandum, sed ad significandam substantiam cui convenit secundum suam naturam movere seipsam, vel agere se quocumque modo ad operationem. Et secundum hoc, vivere nihil aliud est quam esse in tali natura . . . Quandoque tamen vita sumitur minus proprie pro operationibus vitae, a quibus nomen vitae assumitur" (*ibid.*, I, q. 18, a. 2).

[48]"Illud enim *proprie* vivere dicimus quod in se ipso habet motus vel operationes quascumque: ex hoc enim sunt dicta *primo* aliqua vivere, quia visa sunt in se ipsis habere aliquid ea movens secundum quamcumque motum; et hinc processit nomen vitae ad omnia quae in se ipsis habent operationis propriae principium . . . Illud ergo esse quod habet res prout est movens seipsam ad operationem aliquam, dicitur *proprie* vita rei, quia vivere viventis est esse" (*De Ver.*, q. 4, a. 8; I, 116 [italics mine]).

[49]"Sciendum est autem, quod reductio aliorum modorum ad unum primum, fieri potest dupliciter. Uno modo secundum ordinem rerum. Alio modo secundum ordinem, qui attenditur quantum ad nominis impositionem. Nomina enim imponuntur a nobis secundum quod nos intelligimus, quia nomina sunt intellectuum signa. Intelligimus autem quandoque priora ex posterioribus. Unde aliquid per prius apud nos sortitur nomen, cui res nominis per posterius convenit" (*In V Metaphys.*, lect. 5; Cathala No. 824).

[50]". . . Philosophus ibi accipit *vivere* pro operatione vitae" (*ST*, I, q. 18, a. 2 ad 1).

Now, as we saw above, being as the act of all acts can be defined only by giving the form or nature of the thing that is. As pure perfection, it escapes definition in itself. So St. Thomas here refers *vivere* to substance and then to "being in such a nature" (*esse in tali natura*). The intimate relation of being and the nature which is merely a way of being allows us to transfer any denomination of substance one step further to denote the act of being made to be of such a sort by that substance. This order of causes within things is so real that the *proper* sense of life is being or to be. "Nevertheless, sometimes life is taken less properly to mean the operations of life, from which the name was derived."

The same doctrine is developed in the *De Veritate*.[48] The visible behavior of certain things is what we first call life. But since the ultimate cause of this is the being of a living thing, qualified by its form, the name of "life" is applied to this cause. This name stands successively for operations involving immanence (the "first" sense), then the things so operating, and finally their being (*esse*). Both the first and the last senses are called "proper" here. How can this be said and how can the sense of operation be called "first"? There are two orders to deal with here, that of our imposition of names (in the order of knowledge) and that of real causality, which is the exact reverse. We give to the thing we know earliest a name which in fact should apply to the causes that constitute it as it is and make it able to bear that very name. But these we only know later.[49] And so wherever it is a question of terms and the order of knowledge, life is properly operation; but where reality and the order of real causality are at stake, life is properly being.

Given this distinction, St. Thomas has no trouble handling an objection that life means only operation, based on Aristotle's own text to that effect in the *De Anima*, which we have seen above: "The Philosopher there takes *living* to mean the operation of life."[50] The question that arises for us is this: If Aristotle felt not at all compelled to belabor a distinction of two senses of "life," why does St. Thomas go to such lengths on the occasion of using his maxim? The transfer of the name from operations to nature takes place with great ease in Aristotle. Should not the same ease characterize its transfer thence

to being in St. Thomas? No doubt it does; but the appearance of ease is dangerous when so great a leap is made to the very act of being. St. Thomas seems fearful that the appearance will mislead. Unless a student is made aware of the distinctions that underly it, the whole doctrine of being will be prejudiced.

He is concerned to maintain that "the action of an angel or of any creature is not its being (*esse*)," for the simple reason that immanent action has a certain aspect of infinity about it. Were it to merge with the being of a thing, the finitude of created being would be lost.[51] The same is true even of substance. Were any of the perfections of substance in the line of activity to merge with created substances, they would be their own actuality.[52] To allow any of the modifications of the being of a thing to identify with it is to eradicate them entirely in the all-perfection of being-in-itself (after the manner of Parmenides). If anything that is is its own act of being, if actions are their own being, even their own substance (insofar as that necessarily involves "to be"), they are *is* in all its fulness and can no longer be limitations of *is*. As such, they cease to be.

[51]". . . actio angeli non est eius esse, neque actio alicuius creaturae . . . Alia vero actio est quae non transit in rem exteriorem, sed manet in ipso agente . . . Secunda autem actio de sui ratione habet infinitatem . . . Esse autem cuiuslibet creaturae est determinatum ad unum secundum genus et speciem: esse autem solius Dei est simpliciter infinitum" (*ibid.*, q. 54, a. 2).

[52]". . . impossible est quod actio angeli, vel cuiuscumque alterius creaturae, sit eius substantia. Actio enim est proprie actualitas virtutis; sicut esse est actualitas substantiae vel essentiae. Impossibile est autem quod aliquid quod non est purus actus, sed aliquid habet de potentia admixtum, sit sua actualitas: quia actualitas potentialitati repugnat. Solus autem Deus est actus purus. Unde in solo Deo sua substantia est suum esse et suum agere" (*ibid.*, a. 1). Note that the dynamism of being is again brought out by comparing with operation its function as act with regard to essence.

[53]"*Vivere* enim *viventibus est esse*, ut dicitur in II *De Anima*. Sed intelligere est quoddam vivere, ut in eodem dicitur. Ergo intelligere angeli est eius esse" (*ibid.*, 2, obj. 1). ". . . *vivere* quandoque sumitur pro ipso esse viventis: quandoque vero pro operatione vitae, idest per quam demonstratur aliquid esse vivens. Et hoc modo Philosophus dicit quod intelligere est vivere quoddam: ibi enim distinguit diversos gradus viventium secundum diversa opera vitae" (*ibid.*, ad 1).

[54]"In nobis autem nulla operatio ad quam nos movemur, est esse nostrum; unde intelligere nostrum non est vita nostra, proprie loquendo, nisi secundum quod vivere accipitur pro opere, quod est signum vitae. . . Sed intelligere Verbi est suum esse" (*De Ver.*, q. 4, a. 8; I, 116 [cf. n. 48 above]).

[55]"Tunc enim solum immediatum principium operationis est ipsa essentia rei operantis, quando ipsa operatio est eius esse: sicut enim potentia se habet ad operationem ut ad suum actum, ita se habet essentia ad esse. In solo Deo autem idem est intelligere quod suum esse. Unde in solo Deo intellectus est eius essentia" (*ST*, I, q. 79, a. 1).

And so, in response to an objection using Aristotle's maxim against this very position, St. Thomas must resort to laying bare the distinct senses of "life" underlying its application to being. "To live for living things is to be, as is said in the *De Anima*, Book II. But understanding is a kind of living, as is also said there. Therefore the understanding of an angel is its being." The answer is in terms of the distinction made earlier in the *Summa*.

> Living is at times taken to mean the very being of a living thing, and at other times an operation of life, that is that by which it is manifested that a thing is alive. And in the latter sense does the Philosopher say that understanding is a kind of living, for there he is distinguishing the different levels of living things according to the different activities of life.[53]

The same qualification is made immediately on the heels of the identification of life and being in the *De Veritate*.

> In us, no operation to which we set ourselves is our being (*esse*); hence our understanding is not our life, properly speaking, except insofar as living is taken to mean the activity which is the sign of life . . . But the understanding of the Word is His being.[54]

Though "life" has two senses, "understanding" has not and can properly mean only operation. Being and operation merge only in God; being and "understanding" merge only in the divine Word.

St. Thomas explains his insistence that "to understand" and "to be" are different in man on the basis that only being has an immediate or proximate principle in the essence itself. Any operation has its principle in the faculty rather than in the essence, or else the agent could not be without always so acting (since the latter would be his very being). But only in God are being and acting, powers and essence, the same.[55] The only "act" of the essence directly and immediately is being. The way this analogue between operation and being recurs indicates that in spite of his objections against it St. Thomas needs to use it in his argumentation. Since it has a real basis, it can contribute much to our understanding. We must qualify it, however, with the reservations he has imposed on it.

We must grant that no creature's activity of understanding in *this* sense of operation is its being; but cannot *intelligere* be *elevated* to mean *esse* and thus given a second technical sense, just as *vivere*? It would seem that St. Thomas would have to allow for such a usage. The ambiguity of these notions is at least general enough to apply to the contrary of life. In view of the twofold meaning of life, as being and as operations (the first explained in terms of the causality of being peculiar to the soul as form), then,

> . . . since death is the privation of life, it must be similarly distinguished: so that at times it designates the loss of that union by which the soul is united to the body as its form, at other times the loss of the activities of life.[56]

The latter is the fact that we sensibly recognize when we call a body a corpse or when a coroner pronounces a man dead. Metaphysically it signifies that the animate body has ceased to be—as animate—owing to the loss of soul. The form is gone, and the being of this matter is no longer what it was. The parallel is perfect.

In fact, in the central place where he develops the two senses of *vita*, after pointing out that Aristotle's text on the division of life by sensation, growth, locomotion, and so on, involves the sense prior in the order of naming and knowledge, St. Thomas seems suddenly to realize the generality of his own reasons for the distinction and changes the tack of the argument. "Better yet, one shoud say that sensing and

[56]". . . vivere dicitur dupliciter. Uno modo ipsum esse viventis, quod relinquitur ex hoc quod anima unitur corpori ut forma. Alio modo ponitur vivere pro operatione vitae; et sic distinguit Philosophus in II De Anima vivere per intelligere et sentire et alias animae operationes. Et similiter, cum mors sit privatio vitae, oportet quod similiter distinguatur: ita quod quandoque designet privationem illius unionis qua anima corpori unitur ut forma, aliquando vero privationem operum vitae" (*De Ver.*, q. 13, a. 4 ad 2; I, 373-74).

[57]"Vel dicendum est melius, quod sentire et intelligere, et huiusmodi, quandoque sumuntur pro quibusdam operationibus; quandoque autem pro ipso esse sic operantium" (*ST*, I, q. 18, a. 2 ad 1 [cf. n. 50 above]).

[58]". . . vita non est operatio, sed ipsum esse viventium. Ergo ultimus finis, qui est beatitudo, non est operatio" (*ibid.*, I-II, q. 3, a. 2, obj. 1). ". . . vita dicitur dupliciter. Uno modo, ipsum esse viventis. Et sic beatitudo non est vita . . . solius enim Dei beatitudo est suum esse. Alio modo dicitur vita ipsa operatio viventis, secundum quam principium vitae in actum reducitur" (*ibid.*, ad 1).

understanding, and terms of this sort, are at times taken to mean various operations, and at other times the very being of the things that so operate." [57] *All* verbs denoting operations can be transferred to mean the being of the things characterized by those operations. This would certainly follow from the metaphysics of this text, reviewed above, and would further give a solid technical justification for the examples of *calefacere* and *lucere* used to explain *esse* as act of essence in the *Sentences*.

Perhaps since the order of knoweldge is involved here, which proceeds from the sensible to the insensible in things, it would not occur at once that "understanding" could mean a kind of being. To shine, to heat, to live, are all activities that we sensibly perceive things doing. Understanding is insensible and not at once apparent. It itself is reasoned to as a conclusion and described by negations of the characteristics of the material order. To speak of it as a "sign" of a certain nature, and furthermore of the act of being that constitutes that nature as a modification of being, would be at first sight a bit bizarre. A sign is something sensible. Once the knowledge of an immaterial activity is within our grasp, however, is it not in terms of it that we know the immaterial nature and hence the being of that nature? After all, the operation of reasoning is what indicates to us, and indeed gives us, the name for the specific difference of man.

It is at least clear that in the context of the questions on man and the angels, such a far-reaching principle would necessarily be ignored, since the issue there is to analyze the structure of creatures in terms of essence, faculties, and acts, and to delineate their composite nature as an imperfect manifestation of the simplicity of God. Their complexity stands out more clearly when *intelligere* means only operation. But what of discussions removed from this context, especially in the later treatises, where we can expect a development towards greater consistency?

The Aristotelian maxim is invoked again early in the *Prima Secundae* to prove that life and therefore eternal life is not operation but being. The answer to this objection merely repeats the distinction of the *Prima Pars*, but in such a way as to give a rather general reason for the equivocation. "The operation of a living thing" is that "according

to which the principle of life is reduced to act." [58] The form is actual in the first place by being, but its operating also accounts for and increases its actuality. So the two are not unconnected.

The maxim is brought forth again to the same purpose in the *Secunda Secundae*. This time the answer goes back to the general terms of the original discussion, stating them even more tersely and incisively.

> The form proper to any given thing, which causes it to be in act, is the principle of its proper operation. And therefore living is said to be the being of living things, because the living operate in such a way by the fact that they have being through their own form.[59]

Since the type of being that things have is derived from their form (as formal cause) and since their form makes them operate is a specific way, the name of their operation can be used to describe their being. Nothing could be more general; the principles set forth are common to all things that act and are.

As a matter of fact, St. Thomas does state directly that *intelligere*

[59]"Anima enim est principium vitae per suam essentiam: dicit enim Philosophus, in II *De anima*, quod *vivere viventibus est esse*" (*ibid.*, II-II, q. 179, a. 1, obj. 1). ". . . propria forma uniuscuiusque faciens ipsum esse in actu, est principium propriae operationis ipsius. Et ideo vivere dicitur esse viventium ex eo quod viventia per hoc quod habent esse per suam formam, tali modo operantur" (*ibid.*, ad 1).

[60]". . . anima, inquantum est forma corporis secundum suam essentiam, dat esse corpori, inquantum est forma substantialis; et dat sibi hujusmodi esse quod est vivere, inquantum est talis forma, scilicet anima; et dat ei hujusmodi vivere, scilicet intellectuali natura, inquantum est talis anima, scilicet intellectiva. Intelligere autem quandoque sumitur pro operatione, et sic principium ejus est potentia vel habitus; quandoque vero pro ipso esse intellectualis naturae, et sic principium ejus quod est intelligere, est ipsa essentia animae intellectivae" (*De Spir. Creat.*, a. 11 ad 14; III, 90). The difficult expression *ejus quod est intelligere* resembles *id quod est esse*, frequently used by Thomas to isolate more precisely the act of being.

[61]". . . cum *vivere* sit *esse viventibus*. ut dicitur in II *De Anima*, videtur quod vita sit essentia" (*ST*, I, q. 54, a. 1, obj. 2). ". . . vita non hoc modo se habet ad vivere, sicut essentia ad esse: sed sicut *cursus* ad *currere*, quorum unum significat actum in abstracto, aliud in concreto. Unde non sequitur, si vivere sit esse, quod vita sit essentia. Quamvis etiam quandoque *vita* pro essentia ponitur" (*ibid.*, ad 2). The same clarification is found in two of the chief texts we have used: (*CG*, I, cap. 98, ST, I, q. 18, a. 2).

The general explanation of the use of such abstract nouns for the action expressed by the cognate verb is in a logical work, naturally enough, *In I Periherm.*, cap. 5; ed. Leon., No. 5.

has the same twofold meaning as *vivere* for exactly the same reason, the formal causality of being, here laid out in complete detail.

> The soul, which is by its essence the form of the body, gives being (*esse*) to the body insofar as it is a substantial form; and gives it the sort of being which is living, insofar as it is that sort of form, namely a soul; and gives it the sort of living that is governed by an intellectual nature, insofar as it is that sort of soul, namely intellectual. Understanding is taken to mean at times operation, and in this sense its principle is a potency or capacity, but at other times the very being (*esse*) of the intellectual nature, and in this sense the principle of the act "to understand" is the very essence of the intellectual soul.[60]

To understand is being for intelligent things. In the case of angels, we can say *intelligere intelligentiis est esse*. For an animal, to live is to be; for man, to understand after his own fashion—that is, to reason—is to be. For things whose essence is "heater" or "lighter" (even if these sound like twentieth-century artifacts, Aristotle says of artificial things that the purpose of the maker gives us their form), to heat or to light is to be. Things fulfill their being by their operation; the name can be transferred from one to another.

Before concluding, we should examine one more point in St. Thomas's treatment of this maxim in order to eliminate a possible quibble over words. We have used "life," "to live," and "living" (the noun) indifferently. This is perfectly justified by St. Thomas's own vocabulary. He takes pains to clear up a possible misunderstanding of Aristotle's maxim as based on verbal considerations. "Life" (*vita*) does not mean the essence of a living thing because it is related to *vivere* as *essentia* to *esse*. It is just another word for "to live" (*vivere*) and equally transferrable to essence and being for metaphysical reasons. It is the abstract name for the act (as today we use "existence" for the act of being). In this it resembles the word "race" (*cursus*), which means nothing more than "a running" (*currere*)—it names the act "to run."[61]

The central theme running through the whole of St. Thomas's unique treatment of this maxim is the relation of being and form. Though the dynamic act of being makes a form to be, form has an influence on this act in the line of essentiality, making a thing to be what it is. This latter notion is borrowed wholesale from Aristotle, who recognizes no other meaning for being than what-is. When speaking of form as *causing* being, St. Thomas must therefore qualify the statement, since for him it does not cause being absolutely as it does for Aristotle; but when essentiality is the only meaning of being that is at stake, he can afford to be a literal Aristotelian.

> Each and every thing is what it is through its form; but the form presupposes some things, and others follow of necessity upon it . . . An inclination to an end, to action, or to anything of this sort follows upon form, since everything, insofar as it actually is, acts and tends towards what suits it in terms of its form.[62]

Given that a form *is*, it immediately springs into operation in order to perfect itself. This inevitable accompaniment of form is thus actually a direct consequence of being, without which a form is no form. *Agere sequitur esse.* Everything that is acts to the extent that it is, for without being it cannot have the form that defines its being and impels it to action as well.

In this sense, "first act" relative to activity is almost the being that the form causes, the act of being modified by its form. This would bring us back to the language of the *Sentences*, where "first act" is

[62]"Cum autem unumquodque sit id quod est, per suam formam; forma autem praesupponit quaedam, et quaedam ad ipsam ex necessitate consequuntur . . . Ad formam autem consequitur inclinatio ad finem, aut ad actionem, aut ad aliquid huiusmodi: quia unumquodque, inquantum est actu, agit, et tendit in id quod sibi convenit secundum suam formam" (*ST*, I, q. 5, a. 5).

[63]"Primus autem effectus formae est esse: nam omnis res habet esse secundum suam formam. Secundus autem effectus est operatio: nam omne agens agit per suam formam" (*ibid.*, q. 42, a. 1 ad 1).

[64]"Esse autem secundum se competit formae: unumquodque enim est ens actu secundum quod habet formam. Materia vero est ens actu per formam . . . quia enim unumquodque operatur secundum quod est actu, operatio rei indicat modum esse ipsius" (*ibid.*, q. 50, a. 5).

[65]*Ibid.*, q. 75, a. 3.

vivere (as *esse*), although elsewhere it is *vivificare* (the form). Form is act only in virtue of the act of all acts. If we are to make up a category of act based on visible actions and apply the name to their root cause, being will be what we denote by it, the name expressing a certain way of being. Only it has the dynamic quality needed to justify the denomination "act." Form is only a modifier, a regulator, an "according to which" that qualifies first being, and secondly operation. "The first effect of form is 'to be,' for every thing has being according to its form. The second effect of form is operation, for every agent acts through its form." [63]

This notion of form as a "mode of expression" of the energy of the act of being (which, when taken by itself, bursts into pure perfection that denies limit and resists any qualification) is not an innovating interpretation of St. Thomas. It is stated clearly in texts that bear directly on our subject. Form and being are inseparable. There must be a form for a thing to be (it makes it that thing); and if form is to be at all (even to be form) it must have being first. Form transmits this being that clings to it to the matter in the composite. Now the operation of a thing is after the manner of its being, the consequence of form.

> To be of its very nature belongs to the form, for everything is an actual being (*ens*) insofar as it has form. Matter is an actual being through form . . . now because everything operates insofar as it actually is, the operation of a thing indicates its mode of being.[64]

Operatio rei indicat modum esse ipsius. This condenses into a veritable *authenticum* the whole point of this paper. St. Thomas is as expert as Aristotle in the construction of proverbial sentences. As a philosopher's thought contains fewer concepts the greater its maturity, so his style begins to contain fewer words. Operation indicates not form alone without being but form as the mode of being, or even the "to be" as modified. The same implication underlies the terse line, *Similiter enim unumquodque habet esse et operationem.*[65] "In like manner," "after the same fashion," does a thing have being

and operation. The manner and the fashion are defined by form, which is the mode of both being and operation.

The only places where these doctrines are denied have in their background the intellectual analysis whereby we consider the principles of existent things in abstraction from the composite to define what pertains to them as such or is caused by them alone. When it is a question of "life in itself" and "being in itself," the acts considered just as such, *vivere* refers only to operation, not to being.[66] In this state of abstraction, the act of being does not involve (or exclude) operation, while life does. This is another reason why St. Thomas might refuse to compare being and operation, when the abstract consideration of the act in itself is operative in the back of his mind.

Renard has made some excellent remarks on the Thomistic meaning of this maxim, which deserve citation for the light they cast on the subject.

> In a being whose "to be" is limited by the essence, this limitation, this lack of perfection can only be diminished by action. Action, then, is, we might say, a continuation, an efflorescence of the act of existence by which being is in act. For a being acts insofar as it is in act . . . Action, whether it is the act of a perfect or of an imperfect being, is simultaneously an overflowing of the perfection of the "to be," and a perfecting of its neediness. This is the preamble to any sastifactory understanding of the perfective evolution which we find in this world.[67]

Nevertheless, we find it difficult to accept the premises with which he

[66]". . . illud quod est vere aeternum, non solum est ens, sed vivens: et ipsum vivere se extendit quodammodo ad operationem, non autem esse" (*ST*, I, 10, 1, ad 2m).

[67]Henri Renard, S.J., "Essence and Existence," *P.A.C.P.A.*, XXI (1946), 61. See also the more technical statement on p. 62.

[68]This language will be found nowhere in the *De Ente*, let alone any "proof" of the "real distinction" from an analysis of the two notions, as Father Renard maintains. If it be proved at all, it is from a consideration of the unicity of God, the existence of a subsistent act of being having already been proven (compare cap. 3, pp. 24-26, with cap. 4, pp. 34-36). Nor can we agree that essence is a merely negative determination of being, a conclusion that seems to result from regarding essence and existence as an instance of act and potency in general. *De Ente*, cap. 1, implies the exact opposite. The penetrating remarks of J. Owens, "The Accidental and Essential Character of Being in the Doctrine of St. Thomas Aquinas," *Med. Stud.*, XX (1958), 38-39, show that to imagine any other than a positive principle limiting being demands hypostasizing "to be."

begins this discussion. Two points are particularly worth mention. One is his constant terminology of "the real distinction between essence and existence," which is not St. Thomas's at all—and perhaps for a good reason, since it overstates the case.[68] It could well obscure the intimate and essential connection of being and essence which lies at the basis of the doctrine St. Thomas develops in connection with Aristotle's maxim.

The second is the notion that this "real distinction" is a "corollary" of a more general "principle" of act and potency. We have seen the flexibility with which St. Thomas himself applies that "principle" to essence and being, particularly when he vacillates on the comparison of being with activities. Sometimes he takes up and at other times he drops such notions, always qualifying and transforming them by reservations, using them almost in an attempt to find something with which to express what he has to say. Nowhere is the doctrine of being regarded as a deduction from, or even a "first instance" of, a fixed and rigid general principle of act and potency. This "principle" even has a flexible and ambiguous character in its originator, Aristotle, where its various "applications" are so different in character as to have the barest content in common.

The Aristotelianism of St. Thomas cannot be reduced to a generalizing extension of such notions as act and potency. In its mature form, free of the clumsiness of the *Sentences*, it is a far more subtle historical phenomenon that almost defies description, as his handling of this maxim and its related implications reveals. In Aristotle the form is *energeia*, "energy," the dynamic source of all the doings and growings of the composite. Let it be present in matter, and it at once initiates a perfecting evolution of the material thing, progressing within the species as far as the imperfection caused by matter will allow. Since the perfect species of an animal is not exhausted in one individual, the form crowns its achievements by generating another like the first but realizing other particular facets of the specific perfection in another matter. Where form in Aristotle is the fountainhead of a river of activities, being is the source in St. Thomas. Provided we are conscious of the Platonizing inherent in the example, we may say that for him form is only a dam or stricture, through which the flow

of being must pass. Being enters a thing as pure energy and becomes shaped and channeled into activity as it leaves the other side.

St. Thomas is unwilling to attribute all the dynamism of Aristotelian substances to form alone, unwilling to link the notions of act and energy with those of finitude and specific definition. As a Christian, he knows of an all-perfect infinite God who is Being Itself. As a metaphysician, he interprets this being as act and finds that the description of subsistent Being in the Parmenidean-Platonic tradition (known to him as we have seen through pseudo-Dionysius) perfectly applies to God. For him, the reciprocal couple of inseparable principles, form and the act of being, do what form alone ("being as being" in things) did for Aristotle. Only now the dynamism and energy are all rooted in the act of being ("being as being" in things), while form retains from Aristotle only the notions of finitude, definiteness, circumscription, and limitation. But since the couple is inseparable, everything Aristotle said of form can still be said either of form (which always is) or of being (which is always modified by form), as the occasion demands. This will be the ordinary way of speaking about existent things, barring an occasional analytical precision of one of the two principles from the other and a study of it in itself.

Thus from St. Thomas's standpoint, Aristotle's only fault was not to drive his search for causes far enough. The entire trunk of Aristotelianism can be grafted into the organic body of St. Thomas's teaching, where it not only survives but even flourishes, since its roots are deeper there than they were in their native soil.[69]

[69]We can hardly conclude without crediting the unpublished University of Toronto Ph.D. thesis by E. Gelinas, "The Relation between Life and Existence, a Study of *Vivere Viventibus Est Esse* as Found in Thomas Aquinas" (1954), which led us to some of the texts used above. His conclusion that *vivere* in the maxim means form, essence, nature, and even *vivificare* (pp. 68-70, 89, 99, 161-162, 167-169) makes St. Thomas very much the pure Aristotelian, at least in the "quidditative order" (pp. 170-71), from which considerations of "actual existence" would seem to remain forever sundered. The texts suffice to prove that both these ideas are alien to the Thomism of St. Thomas.

Edward MacKinnon, S.J.

THOMISM AND ATOMISM

In a previous article we considered the development of the quantum theory and the various interpretations which have been drawn out of it or read into it.[1] In the present article we wish to consider the same problem, the ultimate constitution of matter, philosophically. Such a consideration immediately encounters the difficulties adumbrated in the previous article. That is, any attempt to explain atomic phenomena in terms of metaphysical realism entails a justification of this realism within the context of the problem treated. Those who reject realism, as a metaphysical doctrine, in the interpretation of submicroscopic phenomena do so primarily because they can discover no means of obtaining knowledge different from or independent of the pertinent physical knowledge. In our opinion, the route leading to a metaphysics of minimal beings does not begin with a new source of atomic knowledge. The point of departure is, rather, the realization that physics and philosophy represent formally distinct ways of knowing reality. Though we do not intend an explicit treatment of this epistemological problem, a sketchy outline of it is necessary to justify the introduction of metaphysical realism and to indicate the limits of its valid application. To ensure precision amid such complications and especially to preserve the distinctness of formally different ways of knowing reality, a formalized schematic outline seems necessary. Though it may be tedious for the reader, it should be an aid to clarity.

I. Outline of the Problem

An over-all view reveals two problems, or fields of dispute, which are properly scientific, and three which are philosophical. Needless to say, this division is not intended to be definitive.

The first scientific problem is the physics of the quantum theory. Physicists are inclined to take a rather discouraging view of the present state of quantum theory, especially of the foundations of quantum field theory. However, this critical dissatisfaction is concentrated on the far frontiers of physics and presupposes a basic development which is solidly established. The essential features of the present theory must be contained in any future improved theory. Any philosophical conclusions which contradict these essentials must, at the very least, fall under deep suspicion. Though these scientific developments cannot be deduced from philosophy, they can serve as a negative norm and, in a limited respect, a suggestive guide.

The second scientific problem which we must consider is that of interpreting the pertinent scientific statements. This problem transcends the formalism of scientific theory and the functional interpretations which may suffice within that formalism. As was explained in I, the physicists who commit themselves on this question can be roughly grouped into two camps. The first camp, which would include Einstein, Schrödinger, Bohm, and many physicists of the preceding generation, tries to interpret the successful formulas of quantum mechanics in terms of the space-time behavior of definite things (usually particles, waves, or some combination of the two); and thus it clings to the ideal of a complete description of nature in the sense of classical physics. Bohr, Heisenberg, and the majority of quantum theorists take a more radical view. The laws of physics, they claim, are not space-time descriptions of atomic objects; they merely serve to correlate possible observations. Interphenomena, such as particles and waves, are introduced primarily to further the correlation and are not to be considered as literal descriptions of reality. The more extreme proponents of the latter interpretation clearly intend it to be taken in a maximal sense. That is, they consider it meaningless

[1]Edward MacKinnon, S.J., "Atomic Physics and Reality," The Modern Schoolman, XXXVIII (November, 1960), 37-59. Hereafter this will be referred to as I.

[2]A recent nontechnical description of the known particles and their properties may be found in S. B. Treiman, "The Weak Interactions," *Scientific American*, CC (March, 1959), 72-86.

to speak of any reality beyond the phenomena as observed. As was indicated in I, such a denial of realiy is a metaphysical rather than a physical position. Here, as physicists, we can content ourselves with the practical realism proper to physics. Physics, in theory and experiment, is concerned with external reality but does not treat it under the aspect of being.

Here we intend to follow the Copenhagen interpretation, but in a minimal rather than a maximal sense, as a physical theory, not as a philosophy. The formalism of quantum theory does serve to correlate phenomena as observed. It does not and cannot treat the question of the nature of the reality whose contours it lims. Within this framework of practical realism we can list and explain a few basic statements pertinent to the present study which modern physics seems to have either established or confirmed. These statements are of such a qualitative nature that they form an accepted, often unexamined, part of the scientist's mental furniture. Yet, a subsidiary awareness of these points is presupposed in the scientist's focal awareness of his more technical problems.

1

Fundamental Particles Exist

"Fundamental" is used here in a conventional sense. The fundamental particles are those which physicists generally list as such: electrons, nucleons, mesons, and so on. Some of these—for example, nucleons and hyperons—may eventually be resolved into even more basic units. Yet they are fundamental on one level of explanation, the present one. "Exist" is used in as vague a sense as "fundamental." That is, we are not opting for the existence of particles rather than waves. The observed particle properties may well be the result of the interaction of more basic fields. We follow the current convention which uses "particle" as a generic term for electrons, and so on. We are merely insisting that these particles are more than mere constructs; they have some sort of objective existence. In the practical realism proper to physics, this is a necessary presupposition made by anyone who wishes to construct a particle accelerator, interpret the tracks of particles on a photographic plate, or perform virtually any atomic experiment.[2]

THESE PARTICLES HAVE SYSTEMATIC INTERACTIONS

Physicists generally catalogue these interactions as strong, electromagnetic, weak, and gravitational. We may prescind from such details and simply retain the conclusion that the particles tend to be active and easily combine with each other.

3

THESE PARTICLES CAN FORM COMPLEX UNITS WHICH ARE MORE STABLE

Here scientific realism finds one of its strongest justifications. It can be stated apodictically that the chart of chemical atoms from one to one hundred is complete and that basic properties of these atoms are known.

4

KNOWLEDGE OF ULTIMATE PHYSICAL REALITY WILL ALWAYS POSSESS A CERTAIN DEGREE OF INDETERMINACY

This was discussed in detail in I, where it was shown that the observations which constitute the source of scientific knowledge inevitably entail some indeterminism with regard to atomic phenomena.

5

THERE IS NO SUCH THING AS A COMPLETELY ISOLATED SYSTEM

This is the working hypothesis underlying the current attempts to construct a satisfactory quantum theory of fields. The experimental underpinning of this statement is supplied by the nature of the measuring processes by which atomic reality is known. Traditionally, science proceeds by means of a relative isolation. That is, the aspect of the system to be examined is isolated from disturbing influences to the degree required by the experiment. For an atomic system, such

[3]A detailed discussion of the relation between the philosophy of nature and physics, with particular reference to atomic physics, may be found in Andrew G. VanMelsen, *From Atomos to Atom: The History of the Concept Atom*, trans. Henry J. Koren, s.s.sp. (Pittsburgh: Duquesne Univ. Press, 1952), chap. vi.

[4]Wolfgang Büchel, s.j., "Zur Naturphilosophischerkenntnistheoretischen Problem der Quanten Physik," *Scholastik*, XXVIII (1953), 161-85.

a relative isolation implies that a conjugal aspect of the observed system is inevitably subject to random uncontrollable disturbances from its reaction to its environment. Hence, as was shown in 1, if a completely isolated system did exist, it could not be known and need not be considered in any attempt to explain the observed universe.

B

Philosophical Problems

The philosophical aspects of the present problem extend to three separate fields of philosophy which should be considered, at least in a cursory way. First among them is the philosophy of nature, the study of changeable being inasmuch as it is changeable. In spite of its importance in this context, we shall transmit this problem, since our concern is with metaphysics, a formally distinct branch of knowledge.[3]

1

Epistemology

a) Negative: The epistemological problems may not be side-stepped so easily. There is a negative problem and a positive one, and before we proceed further we must take a stand on each. The negative problem is a refutation. The Copenhagen school and the positivists would claim that the arguments employed to justify critical realism have been invalidated by the developments in physics, particularly atomic physics. From a careful examination of this contention Büchel concludes that critical realism has not at all been invalidated; it has merely been misunderstood.[4] We will summarize his argument. The traditional arguments of epistemology certainly justify a belief in the real existence of material objects of a macroscopic size; for example, a table. If, as modern physics indicates, this table is composed of submicroscopic particles, these fundamental constituents must have an objective existence as real as the whole they compose. Scientists have called this real existence into question because the methods which yield scientific information about atomic reality do not allow a sharp

distinction between the subjective and objective components. The conclusion that should be drawn from this difficulty is that macroscopic *concepts* are inadequate when applied to the microworld. It is in these concepts that the subjective and objective elements are fused.

Büchel uses a simple analogy to clarify this. A wall may look yellow under white light and green under blue light. Is its color objective or subjective? There is an objective element, the absorption coefficient of the material in the wall which determines what light is absorbed and what is reflected. There is also a subjective element, the impression this light makes on the receiving subject. The distinction is not as neat in the microscopic realm, but it is still present. For example, the concept 'place' when applied to an electron must have an objective element. Two reasons are given. First, the concept, 'place,' may be applied to macroscopic bodies which are composed of elementary particles. Since there must be some continuity between the properties of the particle and the composite, 'place' must have some significance for the particle. Secondly, under certain circumstances an objective meaning can be given to the location of an electron; for example, by relating it to a spot on a photographic plate. The subjective element enters chiefly in the limits attached to the concept. The precise localization attributed to macroscopic objects does not seem to be applicable to submicroscopic objects except through arbitrary, and thus subjective, definitions.

Transposing this argument into the language of Scholastic philosophy, one might say that the true critical problem here is not the justification of critical realism. It is rather the need to determine the limits of validity of *analogous* concepts. Since such things as position and momentum could be defined in a precise mathematical way it was implicitly assumed that the application of these concepts to reality must be univocal. Such univocal predication inevitably leads to contradictions in explaining atomic phenomena. When it was

[5]This treatment is adapted from George P. Klubertanz, S.J., "The Doctrine of St. Thomas and Modern Science," *Sapientia Aquinatis*, I (1955), 89-104.

[6]R. J. Henle, S.J., "Saint Thomas' Methodology in the Treatment of 'Positiones,' " *Gregorianum*, XXXVI (1955), 391-405 summarizes the technical meanings of *via* and *positio* in St. Thomas: "Thus the *via* and the *positio* taken together constitute a miniature philosophical system which is properly deployed and displayed according to the formal movement of its thought. Now, if philosophy involves a movement of rational thought by which conclusions are either reached or, if the fact of the

abandoned, as it had to be, the only available alternatives seemed to be either equivocity—valid macroscopic concepts have no valid application to elementary particles—or, what was more common, an insistence on operational definitions. A concept, such as the position of an electron, has *no* meaning except in terms of the operations by which it is measured. In the second part of this paper we shall try to examine the valid application of the doctrine of analogy to atomic particles. For our present purposes we conclude that critical realism has not been refuted by the advances in science. Rather, its validity is established independent of science, and we presuppose this establishment in whatever reality we attach to the objects of science.

b) *Positive:* The positive epistemological problem which we must consider is the relation between physics and philosophy as sciences in the broad sense. This problem has what may be called a formal and a material aspect. The formal aspect concerns the relation between propositions proper to each of the two systems.[5] A proposition which is per se evident—the whole is greater than a part—contains its formal knowability within the proposition itself. The formal knowability of a derived proposition lies in the reasons because of which one assents to the proposition. For example, two students assent to a geometrical conclusion, one because he understands the proof and the other because he believes in the teacher. Though the proposition they accept is materially the same for both students, the formal knowability, that which makes the proposition a scientific statement in the strict sense, differs. Only one of the two is a geometrician.

In a philosophical investigation of the ultimate constitution of material bodies one must compare philosophical statements about material bodies with scientific statements. Even when the statements may seem to coincide—if, for example, the philosopher and the scientist agree that elementary particles must be active—the formal intelligibility of the two statements differs. To compare statements from the two disciplines one must either employ an elaborate formal theory of knowledge interrelating them or deprive the propositions of their strict technical sense. Traditionally, such an imprecise statement is called a *positio*.[6] That is, it stands as an isolated proposition rather than as a

proposition which participates in the formal intelligibility of the scientific system from which it is derived. In this paper we are limiting ourselves to a minimal correspondence between physics and philosophy. It was for this reason that we tried to summarize some of the pertinent physics in the form of *positiones*, or non-technical statements—the five numbered propositions given earlier.

Though philosophical and scientific statements do not have the same formal intelligibility they may have the same material object. In this consideration we have the material aspect of the present subproblem. Both physics and philosophy can consider the same set of objects in the universe, here elementary particles. Unfortunately, even with reference to the material object, new epistemological difficulties crop up in each discipline. The philosophical ones will be considered in the next section. The scientific ones arise from the nature and methods of science. Physics is generally considered to be a hypothetical deductive system which makes liberal use of constructural elements.[7] The difficulty comes in determining when a scientific statement, even one considered in a nontechnical sense, is a statement about the external world, and when it is merely a statement about constructs which may be related to scientific observations.

Consider the two scientific statements: "A water molecule is composed of two atoms of hydrogen and one atom of oxygen;" and "An atomic wave function may be invariant under time reversal and yet change parity under space inversion." The first statement, taken as a *positio*, may be considered as a statement about real material objects. If the second statement is taken as a *positio*;—that is, stripped of its technical intelligibility—it is difficult to interpret it as a statement concerning the physical properties of real material objects. Between these two extremes, which may be dubbed physical statements

conclusion is already given, understood through premises, the *via-positio* analysis is a proper and formal philosophical analysis. A conclusion or *positio*, divorced from the context of its principles, cannot be *philosophically* determined; it cannot even be said to be a *philosophical conclusion.*"

[7]Henry Margenau, who claims to have introduced the term 'construct' in modern physics, gives a detailed explanation of its meaning in *The Nature of Physical Reality: A Philosophy of Modern Physics* (New York: McGraw-Hill, 1950), chap. vi. However, we do not subscribe to all the conclusions he draws from this doctrine.

[8]See Robert J. Henle, S.J., *Method in Metaphysics* (Milwaukee: Marquette Univ. Press, 1951); J. Owens, C.SS.R., "The Intelligibility of Being", *Gregorianum*, XXXVI (1955), 169-93; George P. Klubertanz, S.J., "What is the Evidence for Thomistic Metaphysics?", *Revue Phil. de Louvain*, LVI (1958), 294-315.

and constructural statements, lies a penumbral region containing statements whose physical content is not altogether clear. A rigorous analysis of such statements would be very difficult. The very nonrigorous method which we are following here is a simple reliance on personal judgment. The five statements numbered above seem to refer principally to the physical world rather than to constructs. Accordingly, they will be considered as scientific *positiones*. Provided these statements are interpreted in a minimal nontechnical sense, the lack of rigor should cause no serious difficulty.

2

Metaphysics

The final problem in this general survey is concerned with the evidential basis for a metaphysics of minimal beings. A realistic metaphysics is not a deductive system based on abstract principles. Rather it argues from the evidence of the real as experienced to the nature of the real as it exists. Recent studies have stressed the fact that the evidential basis for Thomistic metaphysics is immediate sense experience.[8] In the present problem, do we have any adequate sense data? No one has ever seen an atom, much less an electron. The involved inferential reasoning which leads one to believe that these bodies are real hardly has the immediacy dear to the heart of metaphysicians of a Thomistic persuasion. How can one bridge these noetic difficulties and discuss the metaphysics of elementary particles?

The bridge which we have been endeavoring to construct has three props. First, fundamental particles exist. This was explained previously in terms of the practical; e.g., for example, nonmetaphysical realism proper to physics. This supplies the data, the material object for metaphysical analysis. Secondly, independent of atomic phenomena and the related difficulties, the metaphysical principles proper to being as being are validly developed from an analysis of the objects more immediately known and of the knowing subject. Since these principles are proper to all beings, they should be applicable, analogously, to whatever beings exist in the atomic and subatomic realm.

To establish a metaphysical analysis one final prop is necessary.

The metaphysical principles known from an analysis of macroscopic objects must be tailored to fit the microworld. The means which we shall employ to effect such an analogous attribution, the doctrine of the grades of being, requires some explanation. In the thought of St. Thomas, which we are trying to follow, the theory of the gradation of being is a consequence of the doctrine that the universe was created according to a purposeful, orderly design, that it might resemble its Creator.[9] No individual creature can be a perfect likeness of God. A more adequate manifestation of the divine power is had if there is a diversity of creatures hierarchically ordered according to their grade of being. This, he felt, is the ultimate explanation of the diversity and inequality of created things.[10]

When St. Thomas attempted to elaborate this doctrine by listing the different grades of being, he drew on the limited and usually erroneous science of his day. It is because of these indefensible details that the doctrine is generally neglected. However, the basis of his doctrine was not an erroneous science but an understanding of creation which is as true now as it was then. As Sertillanges explained this point, "He was not concerned with astronomy, nor with cosmology properly speaking; he was concerned with the metaphysics of being and of its relation with its source."[11] The purpose of creation has not changed since the days of Aquinas. Accordingly, we will use his fundamental explanation of the structure of the created universe as the basis for our own argumentation. That is, we accept the idea that the universe was created according to an orderly design and that one manifestation of this design is the fact that there are different grades of being . On this basis we shall try for some sort of explanation of minimal beings.

Before beginning, a precautionary note is in order. The frequent citations from St. Thomas are not offered in the vain hope of deducing the data of modern physics from his principles or even to support a claim that the doctrine presented here represents the mind of St. Thomas. What we are trying to do is to draw some conclusions from his

[9]See Phillip Donnelly, S.J., "Saint Thomas and the Ultimate Purpose of Creation," *Theological Studies*, II (1941), 53-83.

[10]*Summa contra Gentiles*, II, chap. 45.

[11]R. P. Sertillanges, *La Philosophie de S. Thomas d'Aquin* (Nouvelle éd.; Paris: Aubier, 1940), I, 277.

[12]See *Summa Theologiae*, 1, q. 22, a. 4; q. 47, a. 2; q. 48, a. 2.

[13]To keep this distinction clear, "particle" will be used in a scientific context and "element" in a philosophical one.

principles which seem appropriate for the present problem. It would be quite easy to gerrymander the conclusions to fit the data. In fact, this could be done inadvertently. In an attempt to obviate this difficulty we shall try to show, whenever possible, that our application of Thomistic principles is consistent with his own interpretation of them. Nevertheless, the conclusions drawn from such a-priori reasoning cannot lay claim to be anything more than plausible.

II

Metaphysics of Minimal Beings

Our attempt to understand the nature of sub-atomic reality will be based on the introduction of yet one more thought-experiment. However, this thought-experiment will be metaphysical rather than a physical one. Its basis is supplied by St. Thomas: "Now after the divine goodness, which is an extrinsic end to all things, the principal good in things themselves is the perfection of the universe; which would not be, were not all grades of being found in things. Whence it pertains to divine providence to produce every grade of being." [12] What might be meant by "all grades" need not concern us. From the grades present we arbitrarily select the lowest and assume, as a working hypothesis, that the principles of Thomistic metaphysics, as interpreted through the gradation of being, can supply a rational explanation of this grade of being. For convenience, we shall designate the beings proper to this grade as "elements." We do not intend to imply that these elements are necessarily the fundamental particles of physics.[13] What we hope to obtain from our experiment are some philosophical conclusions concerning elements which may be compared with the scientific *positiones* concerning fundamental particles. At best, this can supply a minimal correspondence; yet even that may contribute to our understanding of the material universe.

Supplementing the doctrine of the analogy of being, so closely connected with gradation, is the principle of the limitation of act by potency, a principle proper to all created beings. This automatically divides our study into three parts: essence and existence, matter and form, and substance and accident.

The basic intrinsic determination of a being's grade of perfection is had from its act of existence: ". . . but all perfection pertains to the perfection of existence; for things are perfect according to the mode in which they exist." [14] The other perfections proper to being are proportional to this degree of participation in existence. This proportionality applies primarily to essences. From his doctrine on creation St. Thomas concluded that the essence of a being is its determined likeness to the divine nature, its exemplary cause.[15] Accordingly, he considered the degree to which a creature resembles its Creator to be the basic sign indicating its grade of being.[16] It is also possible to study the grade of perfection proper to a being from the lower end of the scale. The less a being resembles God, who is pure act, the closer it is to prime matter, which is pure potency.[17] A being with the least degree of participation in existence must be the closest to pure potency. Also, since the essence of a being is the source of its conceptual intelligibility,[18] the being with the least perfect essence must have the least intrinsic intelligibility. One might expect to encounter formidable epistemological problems in any attempt to understand them.

A further conclusion which may be drawn here is rather difficult to express. Since 'being' and 'one' are convertible, the least being should have the least unity. Yet can unity, which seems to be an absolute, admit of degrees? Certainly, the amorphous unity of a loosely organized group is not applicable to an element. It is important to distinguish between the univocal concept 'one' proper to number theory, and the unity of being. Unfortunately, we are only able to express the latter in terms of rather vague descriptions. The least being has the least self-identity; it is the least whatever it is. It should be so merged with its environment that, like a gentle hill on a level plain, it is difficult to determine where it starts and ends, though

[14] *ST*, I, q. 4, a. 2.
[15] *ST*, I, q. 15, a. 2.
[16] *In Boeth. de Trin.*, q. 4, a. 2; *ST*, I, q. 9, a. 1, ad 2; *Comp. Theol.*, chap. 74 and 75.
[17] *CG*, II, chap. 90, par. 5.
[18] *De Ente et Essentia*, chap. 1.
[19] *Comp. Theol.*, c. 74. See also *ST*, III, q. 57, a. 4.
[20] *CG*, III, chap. 69, par. 27. See also *ST*, I, q. 14, a. 8; q. 77, a. 1, ad 4.

it is something distinct from its background. The least degree of participation in existence must mean the maximum existential relativity.

B

Matter and Form

It is difficult to discuss the relative predominance of matter and form without seeming to reify these incomplete principles of being. Fortunately, St. Thomas has given a rather clear statement of the idea we wish to develop: "A being is noble and perfect in the measure that it approaches likeness to God, who is pure act without any admixture of potency. Therefore, beings that are supreme among entities must be more in act and must have less of potency, whereas inferior beings must be more in potency." [19]

The being we are interested in is the one closest to prime matter; that is, most in potency and least in act. It is reasonable to expect that such an element is highly mutable and easily transformed. This conclusion is based on a consideration of an element with respect to its matter principle. The form, the intrinsic source of a being's specific determination, must fill out the potency of the matter in the element to a very weak degree. That is, though the elements may not be said to be completely undetermined, they are weakly determined.

Action

A consideration of matter and form suggests two related problems, action and composites. Though a created being can not act through its substantial form as a proximate principle of action, yet the substantial form is the source from which the inclination to an effect is had.[20] As a consequence of this dependence of action on substantial form, we would expect that an element would have the least perfect action. The difficulty comes in trying to determine what "least perfect action" means. It may be of interest to see how St. Thomas interpreted the perfection of action in terms of the rudimentary cosmology of his age:

> Powers and actions, however, must be proportionate to the forms from which they proceed. Thus it is that the forms of the ele-

ments, the most material of beings, have associated with them active and passive qualities, such as heat and cold, wetness and dryness, and other qualities of this sort, which pertain to the disposition of matter. But the forms of composite beings, that is, inanimate beings such as stones and metals, have certain other nobler powers and actions consequent upon their forms because of the powers and action which they participate from the elements of which they are composed. Gold, for example, has the ability to bring joy to the heart; a sapphire has the power to clot the blood. Thus, ever ascending, the more noble the specific forms are, the more excellent are the powers and operations which proceed from these forms. Accordingly, the noblest form, which is the rational soul, has intellectual powers and operations which transcend not only the powers and actions of the elements, but all corporeal powers as well.[21]

In spite of the apparent naïveté of the citation, it does illustrate a basic principle—the perfection of an action depends on the grade of the being which performs the action. It also suggests a norm for judging the relative perfection of actions. The more perfect a being is the more *immanent* are its actions. God is pure immanence. Spiritual beings are intrinsically independent of matter in their proper activities. Climbing down the ladder of being, we would expect elements to be characterized by actions which have the least degree of immanence. More concretely, we might surmise that the proper activities of elements would be so strongly dependent upon environ-

[21]"De Occultis Operationibus Naturae," *Opuscula Omnia necnon Opera Minora*: ed. R. P. Joannes Perrier, O.P. (Paris: Lethielleux, 1949), I, 208.

[22]For an explanation of St. Thomas's teaching on the relation between the activities of material bodies and the motion of the spheres, see Bernard Lonergan, S.J., "St. Thomas' Theory of Operations," *Theological Studies*, III (1942), 375-403.

[23]*ST*, I, q. 116, a. 4.

[24]Similar reasoning often leads philosophical physicists to stress causal relations rather than individual causes. For example, see David Bohm, *Causality and Chance in Modern Physics* (Princeton, N.J.: Van Nostrand, 1957), chap. 1. The importance of group causality for inorganic bodies has been stressed by Ernest Kilzer, "Efficient Causality in the Philosophy of Nature," *Proceedings of the American Catholic Philosophical Association*, 1941, 142-50.

[25]This idea of "mesh causality" was derived from Hans Reichenbach's treatment of causality in *The Direction of Time*, ed. Maria Reichenbach (Berkeley: Univ. of California Press, 1956). A suggestive diagram of such a causal mesh is given on p. 37. His theoretical justification—on the basis of Logical Positivism—of such a scheme is contained chiefly in his treatment of the Probability Lattice, sect. 12.

mental influences that any distinction between the activities of the particle and those of the associated fields (the environmental influences) would be somewhat arbitrary.

An adjunct of the problem of action is the question of efficient causality. Following the dictum that a being acts inasmuch as it is in act, it seems reasonable to suppose that the elements should be very inefficient efficient causes; or, to be less facetious, that the determination given to an effect by such an agent is quite limited.

St. Thomas thought out the problem of the causality of elements against the background of medieval cosmology and astronomy. Rather than speak in terms of cause *A* producing effect *B*, he treated both as parts of a dynamically interacting universe. In this scheme *A* is a particular cause specifying the universal cause which is ultimately traced to the motion of the spheres.[22] In his explanation of fate St. Thomas indicated the relation between this doctrine of causality and his teaching on the gradation of being with special reference to the lowest grades: "Hence, it is clear that the farther anything is removed from the first mind the more it is involved in the chain of fate, since so much the more is it bound up with second causes." [23]

Obviously, the cosmological scheme of motion transmitted through concentric spheres is untenable. Yet here, as elsewhere, St. Thomas's doctrine is primarily determined by his theory of being and its relation to the First Being. Accordingly, it still seems correct to contend that the weak causal efficacy of an individual element must be supplemented by the causal determination given by other agents.[24] More concretely, while *A* acts on *B*, it in turn is acted on by a concatenation of causes of the same order and relative degree of efficiency. Accordingly, it seems more appropriate to think of both *A* and *B* as parts of a 'causal mesh' rather than as individual agents or effects.[25] If this analysis is true, any treatment of causality which considers only *A* and *B* must show a certain degree of incompleteness which is inversely proportional to the causal efficacy of *A*.

There is one final complication, reciprocal causality. A being acts inasmuch as it is in act but is acted on inasmuch as it is in potency. When *A* acts on *B*, its very activity must be strongly influenced by the reaction of *B*. For example, if one were to describe a possible inter-

action in which A and B (for this illustration they may be pictured as miniature billiard balls) collide and alter each other's motion, the usual distinction between cause and effect would not be very helpful.

Putting the three together—a weak determination on the part of the efficient cause; a fuzziness in separating the cause from the effect; and the enveloping causal mesh implies that, while the principle of causality is valid, there must be a certain degree of indeterminacy in assigning a given effect to an individual efficient cause. This, of course, is not the indeterminacy Heisenberg speaks of, which is primarily concerned with measurability. Yet the two types of indeterminism should not be altogether unrelated.

Composites

The problem of composites is not the proper subject of this paper. We introduce it here only to obviate a possible objection. It is possible that many of the "fundamental" particles of physics are actually composites. In fact, this seems likely in the case of nucleons and hyperons. It might be objected that, if this is true, the correspondence we are attempting to establish between physical "fundamental particles" and philosophical "elements" would be meaningless. Actually a simple composite of elements should have properties not too different from those which we have ascribed to the elements. St. Thomas explained the relation of composites to elements in terms of his doctrine of act and potency:

> Now among the acts pertaining to forms, certain gradations are found. Thus, prime matter is in potency, first of all, to the form of an element. When it is existing under the form of an element, it is in potency to the form of a mixed body; that is why the elements are matter for the mixed body . . .
>
> And since a thing is generated and preserved in being by the same reality, there is also an order in the preservation of things, which parallels the foregoing order of generation. Thus we see that mixed bodies are sustained by the appropriate qualities of the elements.[26]

[26] *CG*, III, chap. 22, pars. 7 and 8.

[27] Petrus Hoenen, *Cosmologia* (4th ed.; Romae: Typis Pontificis Univ. Gregorianum, 1949), p. 349.

[28] *CG*, III, chap. 74, par. 5.

Because of the composite's dependence on the elements for its determined existence and its qualities there should be some continuity of properties and qualities between a composite and the elements of which it is composed. Hoenen has given a detailed treatment of this based on what he calls "Toletus's Principle." [27] Two elements combined by acting upon each other and so altering each other's disposition that a new third body arises which combines the qualities of its two progenitors in a unified way. Like the elements of which they are composed, these composites would be close to prime matter, the basic norm we have used in our gradation.

From a physicist's point of view, this conclusion that a composite and an element should have roughly similar properties may seem absurd. However, the striking difference evident in the physicist's treatment of the two occurs in the technical formalism by which the two are described and in the new properties peculiar to the composite. When our philosophical conclusions are compared, as they should be, with the *positiones* drawn from physics rather than the technical formalism, the difficulties become far less serious.

C

Substance and Accident

As in the preceding sections, we shall limit ourselves to those points in the doctrine of St. Thomas which seem pertinent to the present problem. A substance is that which exists through itself and of which other things are predicated. If this participation in existence is minimal the substance must be minimal in some sense of the word. Since substance acts as potency with respect to accidents and an element is close to pure potency, we would expect an element to have such little substantial unity that it would almost seem to be a bundle of accidents. As St. Thomas explains: "Now it is necessary for the perfection of things that there be among things not only substantial beings but also accidental beings. Indeed, things that do not possess ultimate perfection in their substance must obtain such perfection through accidents, and the more of these there are, the farther are they from the simplicity of God." [28] Accordingly, in this section we must be primarily concerned with the accidents proper to elements.

A distinction of some importance in this context is that between proper and common accidents.[29] Both are determinations or modifications of a subject, but they have different causes. A proper accident is caused by the essential principles of the being itself; for example, risibility in a rational animal. A common accident is determined by an extrinsic efficient cause. The temperature of a body, for example, is determined by the cause of heat. Proper accidents may be called the proximate foundation of common accidents. In the example above any macroscopic body, simply because it is a material body, must have some temperature, so that the property of having a temperature is a generic proper accident of material bodies. However, the determined temperature which a body possesses at a given time is due to the external efficient cause which supplies the heat as well as to the disposition of the matter.

A proper accident flows from the essence of a being inasmuch as the being is in act.[30] The being least in act, an element, should have the fewest and least determined proper accidents. For example, we might expect that an element's size and shape would be determined in a general way by the nature of the element so that some sort of maximum and minimum size might be assigned. Following St. Thomas, we would expect this size to be quite small.[31] However, the precise determination of this size and shape would be a common accident and thus dependent upon the causes acting upon it. Since the essence of an element yields such a weak determination and the mesh of environmental influences should be ever active, these extrinsic causes should be the critical factors determining the accidental properties of the elements. A measurement of size or location would supply just such an extrinsic cause. Accordingly, we might expect that the measured properties of an element would depend, in a detailed way, on the precise nature of the measurement performed. In fact, it should not

[29]*ST*, I, q. 3, a. 4.

[30]*ST*, I, q. 77, a. 6.

[31]Thus St. Thomas writes, "Unde et in formis dicimus aliquid magnum, ex hoc quod est perfectum. Et quia bonum habet rationem perfecti, propter hoc 'in his quae non mole magna sunt, idem est esse maius quod melius,' ut Augustinus dicit" (*ST*, I-II, q. 52, a. 1).

[32]Bohm, *Causality and Chance in Modern Physics*, chap. 2, explains the role of reductionism in both deterministic and indeterministic philosophies which are mechanistic. Unfortunately, his answer to a faulty reductionism is an infinite reductionism. This may have relevance for physics and its technique of successive approximations but not for metaphysics which can reach ultimates without an infinite process.

be surprising if specifically different types of measurements yield different, and apparently even incompatible, results.

If we may switch temporarily from elements to fundamental particles, the reasoning presented above may be of some assistance in solving a critical problem. Since the knowledge of fundamental particles is based on the measurements performed it should be difficult to separate, even conceptually, the properties and characteristics "proper" to the particle itself from those determined by the causal mesh, including the measuring process. Any structural model or imaginative representation of a particle or an atom generally pictures an isolated thing *with determined accidents*. Such an attempt must fail, not because of the details of the model but rather because the attempt itself entails an essential distortion of the reality represented. Determined effects are assumed while the necessary determining causes are denied.

Nineteenth-century physicists were quite addicted to the practice of constructing conceptual models and were inclined to think of their models as representations of "the thing in itself" (*das Ding an sich*). Their successors in the present century attempted to construct working models of the atom only to meet with eventual frustration whenever these models were interpreted too realistically. Eventually, many concluded that it is impossible to know anything about things in themselves. The best that can be hoped for is a correlation of the observed phenomena. Physically, this attitude represents a repudiation of the earlier mechanistic view. Philosophically, this rejection of earlier ideals represents the same attitude of 'reductionism' that permeated mechanism as a philosophical theory.[32] That is, all phenomena should be explainable in terms of a few quantitative laws proper to the ultimate "irreducible" beings. When it was felt that these ultimate beings could be known exactly, mechanism reigned; when this feeling dissolved in disillusionment, it was felt by many that reality simply could not be known, at least on its most basic level. What we have been attempting to show is that the "reductionism" proper to metaphysics entails an explanation of being in terms of intrinsic and extrinsic principles—of the Creator, the source of all being, and of the metaphysical principles proper to all being. In this

way we can examine minimal beings in the light of more intelligible beings rather than follow the inverted ideal drawn from a sublimated physics.

Conclusion

"By indirections," advised Polonius, "find directions out." This we have been endeavoring to do in two different fields. Scientifically, the critical problem was the physical interpretation to be given to a very successful scientific theory, quantum mechanics. Here we followed the Copenhagen interpretation of Bohr, Heisenberg, and others, which supplies an unambiguous correlation between the theory and all the realizable data. However, such a functional interpretation cannot solve the problem of the nature of the reality represented by the theory. When one attempts to go beyond the technical formalism of the theory and make significant statements about the reality represented, little more than generic qualitative statements seem possible. A tentative attempt to make such statements is represented by the five numbered propositions (or *positiones*) given at the beginning of this article. A philosophical investigation of this problem should not only clarify the significance of these statements; it should also afford some insight into the nature of the difficulties attendant upon their formulation.

Such a philosophical investigation of the ultimate constituents of material reality can proceed in two ways. The first entails an epistemological investigation of the sources of pertinent knowledge and the means of exploiting these sources; that is, the different intellectual disciplines employed. This problem was merely outlined and a minimal path relating atomism to Thomism was plotted.

In addition to this epistemological path-finding there is another less secure but more suggestive route, metaphysical speculation. Since we believe that epistemological studies serve to prune and purify formulated theories but do not generate them, we have indulged rather freely in such speculations. By plundering the works of St. Thomas we have found a stimulus and a guide along this route.

The core of this speculation is the idea that elements are minimal beings. The consequences of this idea have been drawn out in some detail and have yielded a view of fundamental reality which is not at all incompatible with the data of science, especially with the modern

emphasis on quantum fields (or environmental influences in our philosophical language). As a final conclusion we wish to show that this approach does afford some insight into the difficulties attendant upon any attempt to make significant statements about the objects of physics apart from the formalism of physics.

According to the traditional, and still valid, point of view one understands a being when he can explain it in terms of the principles proper to that being. However, some understanding may be had, especially of less well known beings, by including them in a conceptual scheme. For example, the name Marsilio Ficino might mean little to many readers. However, if he is included in a conceptual scheme by being labelled a Renaissance Neo-Platonist, one's understanding of him increases. Such schematization is particularly useful in descriptive sciences such as botany.

Elements, as minimal beings, possess a minimal intrinsic intelligibility. Even if all the necessary data were available it would be difficult to understand them by a resolution to principles of being. If they are to be understood at all the bulk of the intelligibility, so to speak, must be supplied from without. This physicists have attempted by means of an elaborate formalism involving a hypothetical, deductive, mathematical system coupled to procedures for experimental verification. One who wishes to learn quantum mechanics must devote his days and nights to establishing a mastery of this system, for the system, the formalism, is the primary thing understood. Particles, atoms, and so on, are explained through this formalism and thus participate in the man-made intelligibility of the system. Though their contribution, viewed under the aspect of intelligibility, may seem small, yet it is decisive. Only those theories which prove successful in explaining the data drawn from reality through experiments are retained. If one now tries to understand these particles as something apart from the system which explains them, he encounters a dearth of intelligibility. Thus a man can spend years studying atomic physics and yet ask, "Do atoms really exist?" This bewilderment should not be a cause for scandal if one believes that elementary particles are minimal beings with a minimal intrinsic intelligibility.

Concerning the "Real Distinction" of Essence and Existence

WILLIAM L. REESE, *Grinnell College*

Thomistic metaphysics provides for the unequivocal existence of *res naturae* and *entia rationis*, real individuals in nature and beings of reason in the mind. At the same time it allows the term "being" to be taken in a variety of senses; among these senses must be those appropriate to the principles of being in the composition of individual things. The general question, puzzling to me, is this: In an ontology, providing for the outward existence of real individuals alone, can the principles of being, and the modal distinctions related to these principles, be anything other than *entia rationis*? Or in a slightly different formulation: Is the subtle articulation of interrelated principles in Thomistic metaphysics compatible with the recognition of nothing more than real, concrete individuals on the one hand and of beings of reason on the other?

Maritain tells us that the "real distinction" between essence and existence is "the fundamental intuition upon which everything in Thomism depends."[1] And Gilson has it that "existence is synthetically united with essence in reality. . . ."[2] Our discussion will be centered, properly enough, upon this "real distinction" and "synthetic union" in reality; furthermore, that part of the analysis in which we are interested has as its purpose an elucidation of first substance—sensible substance, this is to say, with its allegedly double composition of potentiality and actuality.

If the systems of metaphysics elaborated in the past four centuries owe a great, if largely unacknowledged, debt to Duns Scotus and to Suarez—even the systems of antimetaphysics, as I should judge—it will not be surprising to find a certain similarity between the difficulties which Thomistic metaphysics presents for me, and objections already posed by Scotists and Suarezians. If I succeed in doing nothing more than posing some of their objections once again, this would be well worth doing at a time when the status of metaphysical analysis, in the minds of those who make up the philosophical community, is gradually shifting from the category of impossible and absurd projects to the category of possible—if only doubtfully possible—endeavors. In such a time the subcommunity of the metaphysically inclined has an obligation in common to engage every metaphysical tradition in searching criticism. It is not clear to me

that the Scotistic and Suarezian objections have been fully met. But, standing more completely outside this philosophic tradition than do Scotists and Suarezians, it seems likely that my difficulties with the system will be somewhat different from theirs.

To come to the problem, obviously essence and existence are synthetically united or else they are not. These two alternatives will serve to pose, even if they may not match the subtlety of, the problem. From each alternative, I suggest, disturbing consequences follow. If the union of essence and existence is not synthetic, then essence and its components must be granted a kind of existence, and the "real distinction" between essence and existence fails. On the other hand, if essence and existence mark a real distinction, then essence and its components—matter, form, and accident—lose their ontological relevance, and the analysis becomes unintelligible.

Thomism, as we know, adopts the second alternative; and yet there is some ground within the system for claiming the inseparability of essence and existence. In Chapter Two of *De Ente et Essentia* the nature or essence in a thing is said to be its character as comprehending "both matter and form." Now, if ". . . matter does not exist except by means of form" as Thomists say; if form is a causal principle "giving being and actuality;" and if it is to be distinguished from matter by just these characteristics, the kind of existence necessary to these functions cannot be taken from this principle of being without destroying it in concept. If matter is to receive these determinations, if signate matter is "ordered to three dimensions" and is to serve as the principle of individuation, neither can this component of essence be conceived without the existence proper to the ontological role it is to play. Similar remarks might be made for accidents. If existence cannot be sundered from what we have called the components of essence, then existence must be understood as somehow distributed among these ontological elements, and one moves from passive potentiality to existence by a principle of additive determination. Unless I am very badly mistaken, such a principle is at work, at times and to a degree, in the system which is under consideration. In any instance of sensible first substance there appear to be at least three kinds of supervening forms. The "signate" character of signate matter requires an ordering from of "extensionality," or so at least it would seem to one who stands outside this metaphysical tradition. Second, there is the proper form which determines this matter to the species. Third, there are those forms *secundum quid*, called acci-

[1]Jacques Maritain, *Existence and the Existent* (New York: Doubleday & Co., 1957), p. 45.

[2]Etienne Gilson, *Being and Some Philosophers* (Toronto: Pontifical Institute of Mediaeval Studies, 1949). p. 188.

[3]*Ibid.*, pp. 185-86.

dents, presumably yielding, along with the other two, the real concrete individual.

But, of course, the principle of additive determination, which I claim to be present as part of the analysis, is not given full scope. If this were a sufficient principle of explanation, the account we have given would be correct; "essence" and "existence" would become adjectival in nature, and it would be necessary to speak of essentialistic and existentialistic aspects of matter, form, and accident. The gaining of additive determinations would effect the transformation from passive potentiality to actuality, and the composition of the principles of being, apart from essence and existence taken separately, would culminate in the real individual of first substance.

In fact the principles of determination with which we have dealt do not yield first substance. They lead only to the "essence" of the individual thing "already constituted in its being," yet lacking in existence. We are, rather, to conceive of such essences, dependent upon—one thinks of adding "awaiting"—the participation of existence, *esse*. And yet there is a passage in Gilson which suggests a function for "existence" in harmony with the principle of additive determination. Referring to existence Gilson writes:

> Each and every individual, even among corporeal beings, was henceforward to enjoy its own *to be*, that is, a to be of its own; and this is why, in such a doctrine, to be is not univocal, but analogical in its own right. True enough, corporeal individuals still remain individuated by matter, but, if they owe matter their individuation, they are indebted to their to be for their individuality.[3]

If the passage is to be taken seriously, it leads, against Gilson's intention, to the point—so at least the passage might be understood—of granting existence a role in the essential determination of the individual thing. In this case existence becomes one of several principles of determination, each of them essentialistic and existentialistic, together producing the first substance. I think the passage is not to be taken seriously. And if it is not to be taken seriously, my point is this: If the "real distinction" between essence and existence is not to fail, then essence and its components must be strictly separated from any kind of ontological reality. If this is not done, the principle of additive determination comes into play; and the principle of being which is "existence," having no specifying function and yet translating the fully determinate into existence, becomes an unintelligible aspect of the analysis. If, then, existence is not strictly disjoined from essence the "real distinction" between essence and existence fails.

In Thomistic metaphysics "essence" and "existence" are strictly dis-

joined. Hence, we turn to our second alternative. If essence and existence mark a real distinction, we had said, then essence and its components—matter, form, and accident—lose their ontological relevance, and the analysis becomes unintelligible. The very difficulty in finding an ontological interpretation for "essence" strongly suggests its complete disjunction from existence. Nowhere, for example, can one find in Thomas Aquinas, or his followers, an ascription to essence of greater actuality than form possesses, as form is granted greater actuality than matter. As an *ens rationis* I can understand the meaning of the term "essence": "that by virtue of which the intellect understands that which is necessarily and primarily the being of a nature or substance."[4] As an element of ontology I probably fail to understand it. If as an element of ontology, "essence" is to comprehend both matter and form I can understand this to mean nothing more than the sum of intelligible marks which belong to some instance of first substance. But these characteristics have already been admitted to the analysis without mentioning the term "essence." If, as seems to be the case, no added determination is to be found in "essence" which is not already present in the composition of form and matter, the term is strictly repetitive and betrays itself as the kind of echo which one would expect in intellection among the items which properly belong to *entia rationis*.

Suppose we first accept essence as *ens rationis* and then project it ontologically. If "essence" can be thus projected, it would be a determinate but abstract possibility, somehow real and yet awaiting the influx of existence. But note the consequences of this move. We were able to understand "essence" ontologically as the set of intelligible marks belonging to any instance of first substance. And these characteristics we found to be contributed by matter, form, and accident. If I am not mistaken, our second alternative draws these latter principles of being into the abstract possibility which is all we were able to understand by an essence which is lacking in existence. They become abstract components of an abstract essence—partial essences, if you will. If we separate essence from existence, we separate the components of essence as well. And when we do so the properties which had been granted to matter, form, and accident become completely mystifying. We can no longer speak of the activity of form compared to the passivity of matter; the actuality of form compared to the potentiality of matter; or the ordering to three dimen-

[4]Thomas Aquinas, *Concerning Being and Essence*, trans. George G. Leckie (New York: D. Appleton-Century Co., 1937), p. 44.

[5]Etienne Gilson, *Being and Some Philosophers*, p. 169.

[6]*Existence and the Existent*, p. 45.

[7]*Ibid.*

[8]*Being and Some Philosophers*. p. 170.

sions of signate matter. And prime matter, which has no intelligible characteristics, would seem to have disappeared altogether. That is to say, in this alternative we lose the presumption of a graded reality extending from potentiality to actuality, and the principle of additive determination gives way to a principle of participation. The alternative before us can be exemplified in a figure, but it is necessary to point out that while Aquinas has used language proper to this figure, Gilson has explicitly denied the appropriateness of the figure itself: ". . . the proper receiver of existence," writes Gilson, "is not . . . a 'container' into which existence has but to flow in order to make it be."[5] Even so, in attempting to picture our present alternative I find myself transported in imagination to the sample room of the American Can Company with its variety of containers of every size and shape, the essences which are to gain existence. One can almost hear the splash of liquid being (I do not insist upon the adjective, but flowing metaphors are often employed in descriptions of this *esse*) as each container is filled to its proper measure. The principle of participation may be stated thus: It is "existence" which gives existence; the degree of actuality of any principle of being depends upon its proximity to pure actuality. This seems to me the principle, capable of explicating the notion of "perfections," more lavishly distributed as the forms approach pure actuality. If the former principle of additive determination provides an upward grading from potentiality toward actuality, this principle yields, rather, a downward grading.

I may have been mistaken in thinking of the ontological essence as an abstract possibility; but more than one Thomistic expression suggests this interpretation. Maritain tells us that ". . . the very intelligibility of essences is a certain kind of ability to exist."[6] And in reference to the participation of the act of existence we are told that it is

> . . . diversified according to the *possibilities* of existing. In relation to it those very possibilities of existing, the essences, are knowable or intelligible. Made real by the act of existing—that is to say, placed outside the state of simple possibility—they are really distinct from it as potency is really distinct from the act that actuates it. . . .[7]

And when Gilson writes, "If form still requires and still has to receive a complement of actuality, that complementary actuality cannot belong in the order of formal actuality, but it belongs in an altogether different order, that of existential actuality,"[8] what he calls "formal actuality" would appear to be our abstract possibility.

Such language tends to support the figure I have used, suggesting a mode of ontological possibility. And yet, although I would welcome such a mode, and whatever this language may mean, it cannot be so for

Thomism. After denying the appropriateness of our figure Gilson had continued: "So long as there is no existence, there is no receptacle to receive it."[9] Whatever may be said, if essences are to be retained as ontological possibilities, they must be granted a "place" within the set of basic distinctions which compose the structure of the system. And I, at least, fail to discover this "place." One is able to find logical possibility among the *entia rationis*; one finds a limited potentiality within first substances; I think one does not find a meaning for possibility which would allow the reality of an essence which is to become existent.

And if at last the metaphysical structure of Thomism cannot support the reality of essence, it will be "existence" which gives existence in every sense of the word. There will be no essences, forms of definiteness, outside existence capable of impeding, of forming, this flow of being. In short, the containers of my figure shall have disappeared. And the extended figure transports me out of the sample room once again, and I am left with a fact of existence, and a void. Essence, in losing its ontological position, must be withdrawn into the *entia rationis* and the components of essence as well. And if matter, form, and accident are not to have ontological status, they may remain in concept, but to what can they refer? They begin to refer only to each other; and this is to be expected of *entia rationis*. In this extension of our second alternative the graded reality from potentiality to actuality is equally lost, and the subtle distinctions of the metaphysical analysis again become unintelligible.

In sum, my argument comes to this: If essence and existence cannot be disjoined, "existence" becomes unintelligible as a separate principle of being. And if essence and existence are disjunct, both essence and its components lose their efficacy as principles of being contributing to the ontological analysis. In adopting one alternative we lose "existence;" in adopting the other we lose "essence." And we can retain both "essence" and "existence" only through revision of the system itself.

Possibly this conclusion can be denied through the introduction of distinctions which would radically change the relations with which we have been concerned. Indeed, I rather expect, and in a sense hope, that this is so. One might follow the suggestion of Gilson and consider the principles of being as relating to different orders of being. But this additional alternative likewise contains the problem which we have treated. When the principles of these orders are other than existent individuals, how are they different from distinctions of reason? However much the analysis might gain in adequacy and subtlety, unless the basic metaphysical structure of the system is revised, I would expect continued

[9] *Ibid.*, p. 169.

difficulty from three sources. (1) Two principles of explanation—additive determination and participation—are at work within the system and they are not entirely consonant. (2) The unusual, and severe, separation of "existence" from other principles of being affects their functioning negatively in the total metaphysical analysis. (3) The compression of the modes of potentiality, actuality, and necessity into an essentially vertical gradient is virtually a compression of the modes of being into the single mode of existence; the metaphysical explanation may pose fewer problems if these modes are extended along a horizontal axis, allowing their partial identification with the modes of time.

The Real Distinction: Reply to Professor Reese

LEONARD J. ESLICK, *Saint Louis University*

I

The Basic Problems

One way of attempting to reply to the difficulties ably raised by Professor Reese would be to regard this after the fashion of a Scholastic disputation, using exclusively the language of the schools and not venturing beyond the special problematic of the schools. The characteristic debates between Thomists and Suarezians exemplify this pattern. In such an approach, a background of certain commonly held doctrines is assumed, and the limits of the problematic are set by this background. A great part of the relevant evidence in a debate of this kind consists in textual citations.

For a number of reasons I think an attempted answer along these lines would be inappropriate and less than fruitful in the present situation. Even in more appropriate circumstances, I suspect that the value of such a method of disputation is severely limited. The present dialogue is not an argument within the Thomistic, or even the Scholastic, family. The problems Professor Reese is raising are not predicated upon any special Scholastic commitment but solely upon a genuine concern for metaphysical truth, wherever it may be found. The basic questions to which the Thomistic "real distinction" is proposed as an answer must be faced by any metaphysician in any age. Since the nature of these questions is not always as clear in a dialogue which remains within the restricted area of a single system and philosophical language, I would like to go far afield—as far as the ancients in one direction of time and Alfred North Whitehead in the other.

The doctrine of the real distinction of essence and existence originates as one way of trying to answer the ancient riddle of the One and the Many. There is, of course, one answer, that of Parmenides of Elea, which simply denies the Many and asserts only a single, univocally understood homogeneous Being. For those who feel that this does violence to our experience of a differentiated and dynamically interrelated multiplicity, the task is to explain how, and in what ways, being admits of difference. This question in turn breaks down into others. Does being admit of essentially

or formally differentiated beings, or only of differences which are "material"—that is, extraformal? Or perhaps both types of differentiation can be found in reality. The specific question which bears most directly upon our problem of the real distinction is how the many beings of pluralistic theory can be differentiated in their very *existence*. This latter question is ambiguous and resolves into two quite different, though related, ones. First, what is it that distinguishes the existent from the utterly unreal? Is it form, matter, or both together? (These terms need not be given a strict Aristotelian meaning, since analogues to them can be found in other systems.) Or perhaps none of these alternatives can qualify for the function of existential *actuation*.

The second form of the question is that of existential *separation*. Could there be a plurality of separately existing entities without *intrinsic* metaphysical composition in each of them—or, at least, all but one? In the absence of such intrinsic composition, would the assertion of some completely *extrinsic* principle of limitation suffice, lying wholly outside of being, by which the existence of each could meaningfully be distinguished and marked off from the existence of the others? Or, could there be a plurality of existents each metaphysically incomposite and yet not separated in their existence from one another by anything outside of themselves, but each distinct by virtue of their simple being alone? There is, I think, no further alternative here. I do not regard it as meaningful to assert that many beings could exist separately, in some sense, from one another with nothing either within their being or outside of it to account for their separate and manifold existence.

The family of questions bearing upon existential separation can be expanded further in the direction of more specific problems. If one maintains that there could exist *many* entities utterly simple and incomposite from the standpoint of metaphysical analysis, could their existential distinction be the function of either form identified with existence or of matter so identified? Can existence of itself admit of either formal or material differentiation unless it is a principle really distinct from each? Or, to approach the problem from another angle, if one admits a plurality of existents either formally or materially (or both) distinguished from one another, can these kinds of differentiation in reality be finally intelligible without a composition within the things so differentiated of existence and essence?

II

Types of Metaphysical Pluralism

Let us return now to the initial question raised, Does being admit of *essential* differentiation? I think it can be shown that, depending upon

the answer given this question, there are only four main pluralistic alternatives to Eleatic monism. If there is a many, the many beings will either be essentially one but differing only by a principle other than essence, or they will admit of essential differences in their very being. In either case, two further dialectical alternatives manifest themselves, each of which can be illustrated by historical positions. Any pluralism which holds a unitary essence for all beings must differentiate them by

[1]In this doctrinal family, the internality of "matter" (as the Receptacle or Creativity) to being is not according to an Aristotelian ratio of *potency* to act. Rather, the relationship of this kind of "relative nonbeing" to the formal or essential principle of act is one of contrariety. It is, basically, the kind of opposition between the aspect of an entity which is its participation in essential unity and indivision, and that other aspect by which it is what it is only in relation to others. In the latter aspect it exists not as something in itself and by itself but only in another —in a defining context of relationship to others. Being, in Plato, is the union of both factors, so that the nonbeing which exists as intrinsic to being is not opposed to *being*, but it is other than the essential principle of unity which alone can constitute an entity which possesses an aspect of its being which is incommunicable to others, which is its own, and which cannot be divided, parcelled out, or endlessly dispersed in dependent relationships. Plato's relative nonbeing, therefore, effects differentiation. Difference is always a *relation to another*. No being, considered as isolated and cutoff from relationships of action and passion to others, can be judged as different, or even as self-same, or even as being.

Such a principle of differentiation limits, therefore, by way of *negation*— a negation which is at once responsible both for the *chorismos* between the many things and their essence, and also for the possibility of participation of a many in the one, by way of defective imitation and imaging. In Plato even the Forms are only images of their essence, Unity, and sensibles are only moving shadows in time and space of the Forms.

But how is it justifiable to include Whitehead as a representative of this type of pluralism There are certainly difficulties, and one must beware of any system of classification becoming a Procrustean bed. For one thing, Whitehead does not assert explicitly the transcendental primacy of the One as a principle of essence. But it is necessary to include him in the class of those who hold a unitary essence for all beings in the sense that Whitehead is explicitly committed to the univocity and generic continuity of all being.

Another difficulty stems from the fact that Whitehead attempts to overcome the full Platonic *chorismos* or separation of "eternal objects" from the temporal flux of actual entities. But even here the role of "Creativity," the ultimate substrate of process, is to effect the decisions which constitute actual entities through *negative* prehensions. The decisions between possibles which precipitate facts involve negation and exclusion; and the "atomicity" of the world—the existential distinction between actual entities—fundamentally depends upon this. There is, furthermore, in both Plato and Whitehead, a sense in which 'matter' is a root source of real, surd irrationality, which cannot be *completely* ordered or unified in terms of formal or essential intelligibility. Ultimately, this implies that the differences of things, no matter how far they may be rationalized by an organon fundamentally mathematical, remain finally mysterious and inexplicable. The negations which constitute the separate existence of actual entities can neither be rendered finally intelligible by form nor by existence as a principle of actuality superior to form.

something extrinsic to essence, which may for this reason be denominated "nonbeing." This nonbeing may be either absolute, as falling outside being altogether (although still mysteriously existing), or only relative, as included within the domain of being as a kind of material substrate other than essence. But in either case, the supreme metaphysical law for all such systems is the Spinozistic maxim that all determination is negation. A primary historical example of the first position is the classical atomism of Leucippus and Democritus. Being is equated with the full, and nonbeing with its opposite, the empty and void. It is the latter, a principle falling altogether outside of being, which is responsible for the separateness in existence of the atoms, which in themselves do not differ at all. Even their sizes, shapes, and relative positions are functions of their extrinsic limitation by the void, and it is their separation from one another by the void which constitutes them as an infinite multitude.

The primary historical examples of the second type of pluralism, which founds existential separation of the many upon reception in a material substrate which is internal to being but distinct from essence or form, are Plato and Alfred North Whitehead.[1]

There are also two species of pluralism which hold that being manifests essentially different kinds. The first variety holds that there are at least some entities which are metaphysically incomposite, like the atoms of Democritus, but differing not by some wholly extrinsic principle but in their very being itself. Being in each is simple, subsisting *form*. The Plato of the early dialogues held such a doctrine, although he later abandoned it for reasons we will touch upon shortly. In a crude version, something like this seems to have been held in the naive materialistic pluralism of Empedocles and Anaxagoras. In a much more sophisticated development, we find what seems to be this position in the Aristotle of Book Lambda of the *Metaphysics*, who holds a plurality of some fifty-five of forty-seven separated substances. The number depends upon astronomical exigencies, since these are the unmoved movers of irreducibly different celestial motions. But we are concerned here only with the metaphysical exigencies, with the consequences of asserting, for whatever reason, a plurality of simple beings separated not by the void but in being, identified in each with form. There is, in Aristotle, no question of a real distinction of essence and existence. The essence of each of the separated substances it pure form alone, unreceived in matter and incapable of such reception. In Aristotelian metaphysics, form is the highest principle of act; and there is no higher principle, really distinct from it, to which it can be ordered as a receptive potency. A plurality of subsisting forms, therefore, demands that such "beings" be completely and totally diverse and separated, with no commonness or community of being, either

univocal or analogical. As I have pointed out in another article,[2] not even *pros hen* equivocity can found a common meaning for the name "being" as applied to all of them. They can in no way be related to one another; and even the *pros hen* equivocity which, lacking an adequate doctrine of the analogy of being, is presumed to metaphysically unify the manifold of sensible substances, is reduced to final incoherence. Instead of all things being unified by a common reference to the *one* being *qua* being of the unmoved movers, the reference is rather to a sheer *many* denominated as "beings" solely by chance equivocity. This seems an inexorable dialectical consequence of the third type of metaphysical pluralism. They can neither be significantly related to one another, nor can anything else postulated as existing in an inferior mode be related to them.

We come now to the fourth and final type of pluralism, which admits of essential differences among beings but does so in terms of metaphysical composition in finite beings of really distinct principles of essence and existence. It is only in this type of pluralism that a properly *analogical* community of being can be realized, which will simultaneously allow both essential differences among beings and the intelligible unity of all being.

It is important to be able to exhibit the exhaustiveness of this classification of four types of pluralism in order to show that only a real distinction of essence and existence is compatible with an essentially diversified reality which possesses a true analogical unity. That a division between theories denying essential differentiation within being and those which admit it allows of no third alternative seems obvious. Further, the division between our first and second types seems exhaustive. There are really only two ways in which existential separation can be effected by a principle completely extrinsic to, and even the contrary of, essence. Either such an alien principle of negation will be wholly other than the simple beings separated by it, or it will function as an *internal* principle of otherness in composite beings, as contrary not to *being* but to the *essence* of beings. Its very contrariety to essence, in the latter case, will make the entities in which it is present deficient *appearances* or images of the Absolute, or the essential reality which beings imperfectly show forth. Such a metaphysical system always exhibits a schism or fission between appearance and reality, and there are deep affinities between the Platonisms throughout the centuries and such absolute idealists as F. H. Bradley. Concrete finite existence, in this doctrinal family, is always less than fully real.

But the division of the third and fourth types of pluralism does not seem quite so clearcut. In particular, it is not immediately clear why, if one holds for essentially differentiated entities, the only alternative to the

[2]L. J. Eslick, "Aristotle and the Identity of Indiscernibles," The Modern Schoolman, XXXVI (May, 1959), 279-90.

sheer equivocity of the third type is one positing a plurality of composite entities in which the composition is that of a real distinction of existence and essence. Why not, for example, some kind of universal hylemorphism, or matter-form composition, at least in all entities save one? There have been in history numerous instances of such a position, particularly in the Augustinian doctrinal complex of the thirteenth century.

In answer to this question, I think it can be shown first that such a hylemorphism, excluding a real distinction, makes essence (and, in the case of composite essence, form in essence) the supreme principle of existential actuation. It cannot simultaneously admit of essence as a principle of differentiation in being without falling ultimately into the sheer equivocity which is the fate of "being" as ascribed to the Aristotelian unmoved movers. Nor is this merely the consequence of asserting, for whatever reasons, a *plurality* of simple immaterial entities, each completely different in essence and hence in being. The effort to escape such sheer equivocity by recourse to a universal hylemorphism in all entities save *one*, without admitting a real distinction of essence and *esse*, can only metaphysically unify such entities by Aristotelian *pros hen* equivocity. This is the so-called "analogy" of extrinsic attribution of the Schoolmen, involving a reference of the secondary analogates to the primary one. Only the latter, in this case, can be *being* in a proper and intrinsic way; and all others, flawed by matter, will be called "beings" only by extrinsic denomination and will be something less than fully real. The result is once again, as in the second type of pluralism, a schism between appearance and reality. In this latter case, essential differentiation within true and integral *being*, the "really real," is denied and pertains only to the shadowy realm of appearances.

III

Decision between the Types of Pluralism

We have just seen that if form is the highest principle of metaphysical actuation, then "being" is determined in meaning either to univocity, with no essential differentiation, or to sheer equivocity, as in the third type of pluralism. This third type can, therefore, be regarded as eliminated, since it destroys all unity of meaning for the term "being." Insofar as form actuates, it can only be in an order of univocal intelligibility, of essence. Existential *separation*, in a universe where being is univocal or generic, will be the function not of essence but of a principle of differentiation lying wholly outside of essence. But will it also lie wholly outside of being? This is the answer of the first type of pluralism.

It is Plato who first provides the decisive grounds for the rejection of

this first type. The question Plato seems to have asked himself, in his last period, is whether or not it is possible to have a plurality of simple, incomposite entities, really related to one another and really differentiated from one another. The principle of differentiation and relationship would not, for such hypothetical simple units, be located *in them.* Their relationships would, as the idealists of the Bradley tradition put it, be wholly external. Plato seems to have seen as clearly as Bradley that such relations could not relate and that, indeed, their very extrinsicism from the being of the terms supposedly related by them logically demanded an infinite regress of relations by which relations are related to their terms. Clearly, the force of the difficulty bears against the atoms of Leucippus and Democritus; but it bears also against the earlier theory of simple, indivisible Forms themselves. It is equally destructive, although in different ways, of both the first and the third pluralistic types. Plato's own earlier theory of simple Forms had offered no account of their interrelationship or interparticipation, and in principle could not do so. The atomists had attempted such an account, but it was doomed to failure. Beings cannot be really related by a principle which is the contrary of being, as the void is the contrary of the full. The void of the atomists is precisely that *absolute* nonbeing whose existence cannot be significantly asserted, as Plato, the Eleatic Stranger, tells us in the *Sophist.* Relationship (and hence differentiation), if it is to be real, must be somehow internal to beings themselves—must be constitutive, in some sense, of their very reality. Unless relation and difference can be intrinsic to being there is no possibility of a real community of many ordered beings.

On the other hand, Plato also felt that if relation and difference enter into the very *essence* of such beings—of that aspect of them which is their indivisible unity, by virtue of which they enjoy a mode of existing which is not *in another*—then we are faced with a total relativism and flux. That which is *totally* constituted by relationship to others is literally nothing by itself at all. Hence, for Plato, beings must be asserted as *both* existing in themselves and in relation—in another. There will be for such entities no differentiation within essence. All differentiation will be material—will come from the side of the substrate, of the subject receiving, rather than from the side of essence. This gives rise to what I have elsewhere called the "dyadic character" of being in Plato.[3] In the formnumbers of the Platonic oral teaching in the Academy there is, therefore,

[3]L. J. Eslick, "The Dyadic Character of Being in Plato," The Modern Schoolman, XXXI (November, 1953), 11-18.

[4]On this point, see A. C. Pegis, "The Dilemma of Being and Unity," *Essays in Thomism* (New York: Sheed & Ward, 1942), pp. 151-83.

[5]*Summa contra Gentiles,* I, chap. 25, 4, trans. A. C. Pegis (New York: Image Books, 1955).

an internal composition of the One and the Indeterminate Dyad, functioning as really distinct principles. Hence, even for Plato, a plurality of differentiated entities presupposes a "real distinction," though not one of essence and existence of the Thomistic kind. It is, please note, not a matter of merely *rational* distinction at all, in terms of the exigencies of human knowledge which requires composition of some sort in the objects known.

The ultimate decision, therefore, is between the second and the fourth types of pluralism, each of which is maintaining a real distinction of metaphysical principles internal to being. In the Platonic case, such principles are related as contraries; in the fourth type existence is proportionately ordered to essence as act to potency. We have seen that in the third type *form* functioned simultaneously as the principle of existential actuation and separation. The paradox of the second (Platonic) type is that, in spite of essence (ultimately, the One) being the highest metaphysical principle, it is *matter*, defined in opposition to essence, which functions both as the principle of separation and actuation. The reason for this is clear. If the highest principle of metaphysical perfection is the One beyond being, then existence itself always entails imperfection, privation of unity.[4] The perfection of being is its unity, which is the principle making it an *ordered* manifold; but its *existence*, as well as its multiplicity, is due, not precisely to its unity, but to its unity as received in a subject other than unity, and hence as limited to an image mode of existing. Hence, in such a system, the indeterminate material substrate, "nonbeing," in the sense of that which is other than the essence of being, both determines something to actual existence by receiving it and also pluralizes being—produces a multiplicity of things existing separately from one another.

Certainly this amounts to a recognition, in Plato and Whitehead, that actual existence is not the gift of essence and is not caused in the line of essence. In this there is agreement between the second and the fourth types of pluralism. As St. Thomas Aquinas puts it:

> Again, whatever is in a genus differs in being from the other things in that genus; otherwise the genus would not be predicated of many things. But all the things that are in the same genus must agree in the quiddity of the genus, since the genus is predicated of all things in it in terms of *what* they are. In other words, the being of each thing found in a genus is outside the quiddity of the genus.[5]

This does not, of itself, establish a real distinction of essence and existence in the Thomistic sense, in which *esse* is on the side of act rather than being a receptive, limiting subject. It could be regarded as bearing primarily upon the problem of individuation, upon the *individual* existence which is

not determined in the line of essence. But it does show that actual existence cannot be understood as a univocal or formal intelligibility, although essence, as signified by the genus, is univocally intelligible—communicable to many with the same definition and meaning. The existence of John Smith and Paul Jones are simply diverse. The formal or essential intelligibility of both these individuals can be abstracted in a single univocal concept; their distinct *existences* cannot.

As A. N. Whitehead points out, there is no merely *formal* analysis of actual entities which can be, even in principle, exhaustive. Eternal objects "tell no tales" of their ingression into actual entities. Actual existence of this individual is not a *formal* determination, in the line of essence. Or, in Whiteheadean language, the "decision" which constitutes the existence of an actual entity as brute "matter of fact" cannot be accounted for merely by "eternal objects." "*What* it is to be a man" is definable in a formula which is univocally predicable of the many individual men, if there are any; but *that* this individual man, Socrates, exists can neither be understood nor explained by that formula. No possible set of universals or forms can produce an *existing* individual or even uniquely designate one. *Existence* is not a formal attribute. This is not a matter of mere rational distinction, but rather one of really distinct principles of being.

So far, then, there is a measure of agreement between our two final contending pluralisms. But the primary difference is that actual existence, in the Platonic doctrinal family, is determined *from below* essence, rather than from above, by a decision of Whiteheadean "Creativity," or an imaging in the Receptable of the *Timaeus*. This would be, indeed, a decision which is extraformal (not formally specified or necessitated). But it would suppose that the source of existence itself (as a principle other than essence or form) is a kind of indeterminate subject which actualizes itself or is actualized by the removal of formal indetermination. Such a doctrine makes of *being* a kind of genus, which is subject to external differentiation by differences which are other than being—hence, nonbeing. St. Thomas, however, is firmly convinced, with Aristotle, that being cannot be a genus.[6] If it were, the differences through which it is contracted to species would have to fall outside what is understood in the nature of the genus. No genus is included in the notion of the difference, but being is always included in the concept of the things of which it is predicated.

The function of conferring existential actuality upon essence cannot, therefore, be exercised by an indeterminate "material" principle of subjective reception or decision. Even on Platonic or Whiteheadean grounds,

[6] *Summa contra Gentiles*, I, chap. 25, 6.

[7] *Summa Theol.* I, q. 4, a. 1, obj. 3.

[8] *Ibid.*, reply to obj. 3.

conceding for the sake of argument some power of existential actuation to such a cause, it could only confer at best an unreal, appearance type of existence, in contrast with the nonexistential "Reality" of essence. There would always be some failure of embodiment, a degradation into a shadow world, in which a residual irrationality and disorder would be inseparable from concrete existence. Actual existence, from this point of view, is most imperfect, since it is that which is receptive of all perfections—all of which are in the order of forms and essence—but in itself is lacking in all. In the second variety of pluralism, the formal and essential perfections of existence are themselves nonexistential and as such cannot be integrally and *properly* appropriated by the existential order.

In the *Prima Pars* of the *Summa Theologiae* St. Thomas considers an objection which argues to the imperfection of God on the basis of the prior identification of the essence of God with existence itself. Existence itself, the objection urges, "seems most imperfect, since it is most universal and receptive of all modification."[7] St. Thomas's answer to this difficulty has become famous:

> Being itself is the most perfect of all things, for it is compared to all things as that which is act, for nothing has actuality except as far as it is. Hence being is the actuality of all things, even of forms themselves. Therefore it is not compared to other things as the receiver to the received, but rather as the received to the receiver. When, therefore, I speak of the being of man, or of a horse, or of anything else, being is considered as a formal principle, and as something received, and not as that to which being belongs.[8]

There is, if one likes, a kind of determination (or contraction) from below, in terms of a material principle of individuation. This is not a determination in the line of form or essence. But neither can it determine something to actual existence. A plurality of individuals within a species are only materially, not formally, different—their difference as individuals is indefinable in terms of forms alone. Forms received in a subject are individuated thereby. It is necessary, *if* the form of horse is to exist, that it be received in matter disposed in a certain way, as a body having parts outside of parts and organized for the sake of vital functions. The *individual* existence of a horse will be the function of matter. If there are finite spiritual or immaterial substances, *their* individualty will not be a material function but will be due to their essences (as simple forms) being not only unreceived in matter but incapable of such reception. In such entities, differences of individuals would indeed be equivalent to differences of species. But an *actually existing* individual, in either case, *exists* not by virtue of either matter or form.

In Whitehead, eternal objects (or forms) are determined to actual existence by a principle really distinct from themselves—Creativity, the Whiteheadean analogue to the Platonic Receptable. To exist, in such a system, is always to exist *in another*; and hence being is univocally restricted to process. It is fundamentally adjectival rather than substantial. The principle which effects existence in Whitehead is, therefore, a limiting *subject*, in itself formally indeterminate. It effects the existence of actual entities by determining itself adjectivally, in self-decisions which are primordially grounded in a decision which orders the relevance of forms or eternal objects. Eternal objects, in themselves, are mere possibles—if even that. Forms are not, for either Whitehead or St. Thomas Aquinas, self-actualizing, or existing of themselves. Possibles are neither the ground for their own *real* possibility nor for the decision between them which is embodied in actual existence. But in Whitehead this ground or subject of existence, Creativity, is a natureless substrate which is actual only by virtue of its accidents.

St. Thomas, on the contrary, is insisting in the text quoted above that existence is a principle in the order of *act* rather than *potency* (or, one might add, to include Platonic positions, privation or "relative non-being"). The relation of existence to essence is neither that of potency to act nor that of a privative subject whose reception of essential reality degrades it to an appearance mode of existing. Existence is something received; it is not that to which existence belongs, and as received it confers integral and proper reality upon its subject. Reception of form in a subject may account for individuation. It cannot account for the actual existence of any individual subject. The material substrate of becoming, however conceived (whether as a potentiality for substantial existence or a relative nonbeing), cannot simultaneously function as material indetermination and potency in relation to form as act, and *also* as the principle which confers actuality upon forms in the order of existence. Neither form nor matter, separately or in conjunction, can exercise the function of existential act.

Existential *actuation*, in a universe where being is analogical, is the function not of essence but of a principle of existential act really distinct from essence, though proportioned to it as act to potency. Existential *separation*, in a universe where being is analogical, is the function of essence, either as pure form (in immaterial substances) or as individuated by matter. The same principle, however, cannot have *both* functions.

The end of this paper has now been reached, and the reader has no doubt noted that I have not given explicit answers to the specific difficulties raised by Professor Reese about the "real distinction." It would require another paper to do so, but I am convinced that before it could

profitably be undertaken, the present article had to be written first. To my mind, it is the necessary metaphysical prolegomena for such discussions.

I will only attempt, in conclusion, to make some very general observations about Reese's problems. It seems to me that Reese gets off on a false trail with the quotation from Gilson about the *synthetic* union of essence and existence. I do not think that the problem of the real distinction can be properly posed in terms of the analytic-synthetic contrast. Such a contrast does violence to a metaphysics of act and potency, and to the analogy of being. The Thomistic explanation is not in terms of a combination of two items (existence and essence) that are already there, as it were, *before* there are really existing things. There are Suarezian texts which put this non-Thomistic view so baldly; there is a sort of *act* of existence which is combined with an *act* of essence. Since both are actual, a third item (the substantial mode of *unio*) is required to glue them together. Eventually, as Vernon Bourke has commented, this "mode" comes to seem more important, as unifier, substantializer, even reifier, than the initial components of being.

QUENTIN LAUER, S.J., *Fordham University*

The Meaning of Heidegger. **By Thomas Langan. New York: Columbia University Press, 1959. $4.50.**

There is in America, among the philosophically inclined, an awakening of interest in the provocative thought of Martin Heidegger. As yet, however, the opportunities for any but the professional scholar to familiarize himself with what is basic to this thought are extremely rare. No one can make this familiarity *easy* to acquire; but, for those who are willing to make the effort, the present volume makes it *possible*. The intricacies of this thought are here set forth with as much clarity as the subject-matter allows. If the result is somewhat less than lucidly clear, the obscurity should be charged to the account of Heidegger, not to that of Dr. Langan. The latter has at least made it possible for the English-speaking philosopher to grasp the thought concealed in Heidegger's elaborate word-puzzles.

Heidegger's main concern is an ontological one; the question he asks is, "What is the Being of that which is?" This question, however, can neither be asked nor answered until we ask the more fundamental one regarding the being of man, who alone is conscious of being, and to whom, for that reason, the being of whatever else is must ultimately be related. Thus, what Heidegger does is to institute a "fundamental ontology," in which the one who questions being is questioned as to his being. The questioner questions his own being, and in so doing he questions Being itself.

Because to question Being is to "stand out" (ex-ist), both in the sense of surpassing the limitations of one's own being and in the sense of being outstanding as the sole questioner among things which are but do not question, Heidegger's thought has been called a "philosophy of existence" (not to be confused with the "existentialism" of Jean-Paul Sartre). If, however, to be fundamentally is to exist, and to exist is to be in time, historically, finitely, then the foundation of Being is to be sought in the finite, not in the infinite, the transcendent. Thus, according to Heidegger, the task of philosophy today is at once to destroy traditional metaphysics, with its insistence on a transcendent foundation of Being, and to surpass it

by bringing out the non-metaphysical truth latent in historical metaphysical positions.

This man accomplishes by "standing-in" the world of which he is both a part and a foundation, since only through him can the world have a meaning. If his relation to the world is "authentic," he will permit it to reveal the very "meaning of its being," which is but another way of describing the task of philosophy. This kind of philosophizing demands an extremely intimate relationship of Being, Thought, and Truth. Thought is not the activity of a subject with regard to a Being which is "out there;" rather it is the "thinking of Being" or Being's thinking. Truth, then, is Being revealing itself authentically in this Thought.

Such language cannot but seem vague and over complicated to those who are accustomed to a more systematic way of thinking. It is unquestionably just that, but Dr. Langan's masterful presentation permits us to see through the vagueness and the complications to the profound insights which they conceal. The author is not, however, sparing in criticizing the very inadequacies of these insights. Heidegger, he says, refuses to come to grips clearly and totally with the problems he raises, and he has so limited the perspective that some fundamental phenomena of human existence find no place in his thinking.

One suspects that, in revealing the inadequacies, not only of Heidegger's conclusions but of the very approach to which he has committed himself, Dr. Langan has done much to point up the inadequacies of any *merely* phenomenological ontology. It is true that for Heidegger Being is ultimately "mysterious," revealing itself only as "veiled," but the incomprehensibility of this "mystery" is a far-cry from the incomprehensible richness which Christian thought finds in Being. Heideggerian thought—which is ultimately pagan—finds Being incomprehensible, because man's desire to comprehend it simply cannot be satisfied. There is *nothing* to satisfy it; and mere philosophy must accept this "no-thing" (*das Nichts*) as the foundation of Being. Philosophical thinking must satisfy itself with finitude; there is nothing more; to seek more is to be untrue to philosophy, to "metaphysicize" it.

It may well be asked whether such a philosophy succeeds in answering the questions it raises. There cannot, however, be a question that in raising the questions as he does Heidegger has provided the systematic philosopher with a challenge he may not ignore.

JAMES COLLINS, *Saint Louis University*

The Early Reception of Berkeley's Immaterialism, 1710-1733. **By Harry M. Bracken. The Hague, Martinus Nijhoff. Pp. x + 123. Paper. gld. 9.50.**

Recently John Yolton's study of how contemporary critics looked at Locke has shown the value of studying the first reactions to a major thinker. Now Professor Bracken of Iowa performs a similar service in the case of Berkeley by investigating the early appraisals of his thought. This sort of research is specially helpful in the study of Berkeley, since his standpoint was widely misunderstood by his own contemporaries, and this misunderstanding affected the emphases which he placed in his later writings. Philosophers of the stature of Hume, Kant, and Reid took him to be a skeptic or an idealist who denies bodily existents. This stereotyped view of him derived in large part from the criticism of Berkeley found in Andrew Baxter's *An Enquiry into the Nature of the Human Soul* (1733). This Scottish source is usually regarded as the first important criticism of the Irish bishop. Bracken does not deny its influence but he does show that it was built upon a steady tradition of anti-Berkeleyan writing during the years 1710-33. Baxter's views were mainly shaped by these earlier estimates, and hence a knowledge of them helps us today to understand how the common European reputation of Berkeley was formed.

This monograph patiently describes the reviews of Berkeley in the major learned journals. Apart from the *Journal littéraire*, most of the reviewers mishandled their assignment. Berkeley's immaterialism was simply too odd a doctrine for them to be able to classify in the previous pigeonholes. The best they could do was to reduce it to skepticism, solipsism (which they popularly referred to as "egomism"), and an idealism which undermines the sensible world. The only trouble was that Berkeley explicitly disavowed these positions and offered reasonable arguments against confusing his stand with them. To help us follow these early critics, Bracken adds six appendices containing the major notices on which his analysis is based and which are rarely found in libraries.

Much of the investigation centers around the reception of Berkeley in the Jesuit *Mémoires de Trévoux*. The editors were more eager to picture Berkeley as an extreme development of Malebranchism than to weigh his thought for its own sake. Their polemical intent led them to claim that Berkeley removes the basis of proof of God's existence by denying a sensible world, whereas in fact Berkeley made a certain interpretation of the sensible world and then used that interpretation in his inference to God. Another major shaper of the common image of Berkeley was

Chambers' *Cyclopaedia*, which described his work as being mainly in epistemology and as introducing God only as an afterthought. Finally, Bracken gives an analysis and criticism of Andrew Baxter's account. He notes that Baxter failed to follow the strategy of Berkeley in fusing perception with existence, as a foil to skepticism. But Baxter did raise some genuine questions, such as how we could tell whether the real world lies in your idea of it, in mine, or in God's. Perhaps Berkeley was not without resources even here, however, since he used his theory of causal participation to suggest a convergence of similar ectypal ideas upon their archetypal pattern in God's mind. This carefully constructed book brings us noticeably closer to an understanding of the attitude of Berkeley's first readers and critics.

HARRY A. NIELSEN, *Notre Dame University*

Kant's Metaphysics and Theory of Science. **By Gottfried Martin. Translated from the German by P. G. Lucas. Manchester University Press, 1955. Pp. viii + 206, with notes and index. Cloth, 21 shillings.**

Kant's *Critique of Pure Reason* is fed by two great streams, the new natural science and "the old ontology." In this work Gottfried Martin, Professor of Philosophy in Mainz, explores the regions in which they flow together. The book opens with a *resume* of Leibniz. Then it has two main divisions, "Unity" and "Being." In the first division, which covers the principal ways of conceiving Nature and Unity from Greek times to the present, Martin takes a long look at Kant's estimate of Newtonian science. He discusses Space, Time, the nature of mathematics, *a priori* knowledge, and the general problem of antinomies in philosophy. Under "Being" he discusses, along with the concept of Being from Plato on, the several kinds of beings important in Kantian thought: God, the acting and thinking subject, appearances, and things-in-themselves. The discussions are wonderfully unhurried considering their breadth of reference, and done with such skill that the reader is many times called back for a second look at some luminous exposition or explanation.

In these discussions all roads lead back to the *Critique of Pure Reason*. Martin's deep feeling for Kantian problems and devotion to the *Critique* underlie the merits of his book and are perhaps accountable for its difficulties as well. Our difficulty concerns the distinction between objects-as-appearance and things-in-themselves, now as always the number one trouble for Kant's readers. Martin calls the idea of a thing-in-itself "problematic." That is, we are in no way forced to posit a hidden substrate for every ordinary object. For Kant's purposes, according to Martin, we

need only say it is possible. If we do, then God, Freedom, and Immortality, ruled out of scientific discourse by the *Critique*, can come back in where we need them most. Whenever a Kantian argument turns on the admissibility of things-in-themselves, Martin warns the reader again of their questionable status. However, he allows their correlates, objects-as-appearance, to remain pretty well above suspicion. This is hard to understand. The problem of the aporiae is whether or not it makes sense to talk about things of which nothing can be safely said, and which Kant posits only in opposition to objects-as-appearance. We should thus expect a twin problem: whether or not it makes sense to talk about objects-as-appearance considered as correlates of things-in-themselves. Since the Kantian system, taken as a total way of speaking about human knowledge, depends on keeping both sides of this distinction, it is strange to find Martin warning us that the heads of the coin may be counterfeit, yet proceeding for the most part as if the tails were good money.

Martin has an eye for threads that run through all the ages of philosophy. Making every allowance for this gift, it is still surprising to hear that Leibniz and Kant are "in unbroken continuity with Scholasticism" (118, 169). The mainstream of Scholasticism acknowledges a world of perceptible objects standing over against us with intractable ways of their own; for Leibniz this world is unanalyzed thoughts, and for Kant, in so far as we can know it, mere appearances, with no existence independent of human thoughts. Hasn't a thread snapped here? On a related point, Martin sees no way around the 'limitation'—to use his soft word—which the mathematical antinomies place upon metaphysics. For Aristotle and Aquinas, as he notes, the impossibility of an actual infinite is decisive for questions about infinity in the physical order. It is natural to wonder, then, how the possibility of an actual infinite made its comeback. There are other broken threads. Wherever, in fact, Martin speaks of "the old ontology" as a source of Kant's thought, the reader will do well to ask whether it is not actually the newer, Leibnizian ontology, with its troubled half-way view of the status of nature, that is the feeder.

Though modestly conceived as just "a new sign of the inexhaustible depth of Kantian thought," this is a book rich in learning and suggestion, filled with illuminating asides on nearly every turn of western thought. In passing it provides a brimming little conspectus of neo-Kantian studies and a clear picture of how the three *Critiques* are related. Mr. P. G. Lucas deserves a tribute for the lucidity and warmth of his translation.

La communication de l'être. **By André Hayen, S.J. Vol. I, *La métaphysique d'un théologien.* Paris: Desclée, 1957. Pp. 189. fr. b. 120. Vol. II, *L'ordre philosophique de saint Thomas.* Paris: Desclée, 1959. Pp. 355. fr. b. 246.**

These two volumes are the first of four that are to make up the study entitled *La communication de l'être.* As the title suggests, these volumes are to be a *Retractatio* in the sense of Augustine of Hayen's *L'Intentionnel dans la philosophie de saint Thomas* that appeared in 1942. Now the author is convinced that Thomistic metaphysics is not only a metaphysics of intentionality but also a metaphysics of the communication of existence. Now he perceives more clearly the close ties that link metaphysics with both history and theology. Now he maintains that the key to metaphysical reflection is, in Maréchal's phrase, the transposition of the terms of the problem, the recognition of the primacy of existence over activity.

Because Hayen agrees with M. Van Steenberghen's protest against Gilson's presenting the metaphysics of St. Thomas in the theological order, he plans to present it in the philosophical order. On this point, Hayen would go so far as to wish to entitle his own work after the manner of Spinoza: *Philosophia Sancti Thomae Ordine Philosophico Demonstrata.* Hayen's position is that theology, the science of supernatural faith, takes upon itself a genuine philosophy which is autonomous, though not independent, of theology.

The first volume, *La métaphysique d'un théologien*, begins with an explanation of the purpose of the entire project. Hayen plans to arrive at the *intentio profundior* of St. Thomas by the most exact study of the text. But since no one, not even St. Thomas, ever adequately expresses his intention, the closer one studies the text the more one understands that the intention of the author eludes him. Hayen believes that to attempt to discover the intention of St. Thomas is to enter upon metaphysical reflection. In so doing, the transition is made from the point of view of the grasp of the Absolute by the human mind to that of the grasp of the human mind by the Absolute. This is to recognize the absolute primacy of God, His love, and His supernatural revelation of impenetrable mystery. And this constitutes metaphysics, because for Hayen metaphysics is the human science of the Absolute.

Throughout the first volume the theme of the unity and distinctness of philosophy and theology predominates. The author maintains that it is impossible to understand the metaphysics of St. Thomas apart from the theology which employs it. For St. Thomas was ever a theologian. Too

often Catholic historians neglect this fact in their anxiety to meet directly the charge of critics such as Bréhier that there was no "philosophy" in the Middle Ages. But because faith is the personal commitment of the intellect to the Creator of reason, the intention of St. Thomas as a theologian requires and fosters a strictly rational reflection, an autonomous metaphysics. In the remainder of this volume Hayen shows that the metaphysics which is taken up into theology is reinforced by the light of faith without losing its own proper character. In fact, the theologian is capable of exercising more perfectly than any other the work of natural reason in metaphysical reflection.

The second volume, *L'Ordre philosophique*, describes the main characteristics of the metaphysics of St. Thomas. Hayen's major point here is that it does not consist in the elaboration of a system but in fidelity to a living tradition. But Hayen places St. Thomas not in the tradition of the Greeks and Arabians but in the tradition of St. Augustine and St. John Damascene. This fidelity to the tradition of St. Augustine consists in the elaboration of a metaphysics of creation. To indicate the intention of St. Thomas over against his expression, Hayen cites textual evidence of the shortcomings of expression in the Thomistic text.

By comparing St. Thomas with St. Anselm, the author indicates the concreteness of the metaphysical reflection of St. Thomas. And a careful analysis of the treatment of the problem of the possibility of the universe brings out the very same point. Finally, this is confirmed by a study of what St. Thomas means by *necessitas ex suppositione*. This part of the second volume shows that the metaphysics of St. Thomas is developed by elaborating conceptually the implications of concrete reality. Hayen goes on to show that this terminates beyond itself in a free assent to creative love.

In the last section Hayen discusses the philosophical order of St. Thomas under the notion of its being a Scholasticism. Here he stresses the open and dynamic nature of this philosophy which is directly related to the objective of these two volumes. For their purpose is effected if only the reader has come to the realization of the *intentio profundior* of St. Thomas, the transposition of the terms of the problem.

There is much to commend in this brilliant study. Hayen's underlining the fact that St. Thomas was a theologian is significant because this is often passed over lightly by historians of philosophy. He brings to the fore the difficult problem of the unity and distinctness of the philosophy and theology of St. Thomas. Also, the study of the development of the expression of St. Thomas presents very well the concrete orientation of St. Thomas's thought. And his reflections on the snares of Cartesianism and mathematicism that lie in wait for the overanxious teacher of philosophy

are worthy of note. As he rightly observes, Thomism is not in the manuals, such as Gredt. These elementary introductions are even necessary; but if the distinction between these and philosophy itself is neglected, students go through life thinking that there is nothing more to metaphysics than they learned in a few short years; and some go on to tell the world of scholars that Scholasticism is the set of static formulas they memorized at college or in the seminary. And perhaps teaching that regarded this distinction would be more challenging and inspiring. Though Maritain as early as 1932 in his preface to *Distinguer pour unir, ou les degrés du savoir* declared that Thomism is not a scheme of ideas patterned after a spatial or mechanical model, it is still timely for Hayen to declare that Thomism is not a closed system but that it is open and dynamic.

But for all the valuable insights, there is one basic difficulty with Hayen's position. This is his acceptance of the main tenets of Maréchal. Since Hayen's work represents the drawing out of some of the implications latent in Maréchal's position, it seems just to raise questions about its validity in the light of its development by Hayen. Though Hayen's plan to present the metaphysics of St. Thomas in the philosophical order is commendable, the question is whether the Kantian approach of the position can be reconciled with such a propect. Hayen explicitly sets the intelligible over against the sensible and phenomenal. And here, too, he admits the Kantian origin of this role of the a priori in human knowledge. But this can hardly be reconciled with St. Thomas's assertions about the intelligibility of the sensible and contingent.

In this area, Hayen leans heavily on Pieper's interpretation of St. Thomas, which shows that for him created beings are completely intelligible only in the creative mind of God. But Pieper stresses at the same time the intelligibility of contingent beings for the human mind. As Pieper says "'Intellectus . . . penetrat usque ad rei essentiam, the mind makes its way to the essence of things,' this remains a valid proposition for St. Thomas, in spite of his assertion that the intellectual efforts of philosophers have never been able to grasp the essence of a single fly." And it is this partial but genuine grasp of the intelligibility of sensible beings that is not accounted for in Hayen's interpretation.

Furthermore, Hayen's interpretation limits Thomistic metaphysics to the context of the science of theology, just as it is as a matter of fact found in St. Thomas. But if the contingent beings of the sensible world are to some extent intelligible, then it is possible to construct a philosophy drawing its inspiration and basic approach from St. Thomas, but not in the context of the science of theology. Then metaphysics would not be the science of the Absolute, but the science of being as such.

WALTER J. ONG, S.J., *Saint Louis University*

The Living and the Dead: A Study of the Symbolic Life of Americans. **"Yankee City Series," Vol. 5. By W. Lloyd Warner. New Haven, Conn.: Yale Univ. Press, 1959. Pp. xii + 528. $7.50.**

This is the fifth and last volume in the "Yankee City Series," a group of sociological studies by W. Lloyd Warner and collaborators that were begun in 1941; it is probably the most tantalizing volume for philosophers. Throughout this series the techniques and reflective approaches developed by anthropologists for remote and primitive societies are turned on ourselves. The result in the present volume is a work which is extremely rich for an American sociological study, sparse in statistics—although there are a few charts—but rewarding in insights.

Contemporary discussions of the symbol and symbolization take place in an area where philosophy, anthropology, sociology, psychology, and language studies actively meet, and where the lines of demarcation between these subjects become very thin. The structure of this book is venturesome and masterful, carrying the reader—not without appropriate effort on his part—from the particularity of "Biggy Muldoon—a Political Hero," the first chapter of the book, to a last chapter, highly abstract and generalized, on "The Structure of Non-Rational Thought." Any adequate theoretical treatment of symbols must rest on observant and meditative familiarity with the complex facts of concrete symbolic usage—and this demands much more than the ability to wedge an occasional example into a doctrinaire discussion. Professor Warner has succeeded admirably in spanning the distance between the concrete and the abstract poles, and in doing so has brought home the fact that human activities which are ordinarily not interpreted as symbolic in cast but rather as cold, down-to-earth, matter-of-fact, businesslike, calculating, and "hard-boiled," are often performed for reasons which are highly, if not primarily, symbolic.

The author's choice of political activity as a point of departure in his consideration of symbolism is canny and effective. For in a democracy, perhaps more than in any other form of society, politics, from party convention to campaign personalities, is an elaborate traffic in symbols.

From the politics of the typical Yankee City which he is analyzing, Warner moves to a consideration of its ritualization of the past, the items in its past history which it likes to recall in its civic pageants and the ones it likes to leave out, and then on to the symbolic life of associations and the symbolic relations of the living and the dead. Here Memorial Day ceremonies and activities centering around cemeteries, together with Abraham Lincoln's curiously sacral role (the people unified in war and death) are the objects of fascinating and circumstantial study. The treat-

ment of sacred symbol systems in the next part of the book becomes more abstract, although references to concrete items in Yankee City behavior continue with fair frequency. The Protestant cult of the masculine and abstract, and its antipathy to the feminine, chthonic, or sexual in religious symbolism, is taken up in great detail; and the Catholic attitude, which incorporates both femininity and sublimated sexual symbolism into religious service, is treated even more fully.

The section on marriage and on its correlative, consecrated virginity, relies much more on Catholic belief, teaching, and behavior, than on Protestant, for the good reason that in Protestantism generally these things have much less symbolic resonance. Here the treatment of the Church and the individual soul as the bride of Christ, of the mystical marriage in the investiture of religious, of the dual role of the priest (as individual, feminine with the rest of the Church, the Bride of Christ; as an *alter Christus*, masculine), and of Mary, the Virgin Mother, is exceptionally well done. The study of the symbolic structure of the sacred year, of the liturgy in general (Dietrich von Hildebrand is among the interpreters drawn on here), and of the Sacrifice of the Mass in particular, is sensitive and profound. Writing as a sociologist, Warner makes a great many points of intense interest to theologians. All the symbolic items—Catholic, Protestant, and Jewish as well—he treats, moreover, not as separate, isolated phenomena but as integral to the Yankee City psyche, for this book is cut from the whole American cloth.

Concerning Warner's contrast between "oral Protestantism and visual Catholicism" one might suggest that, while Protestantism does typically emphasize the oral to the virtual exclusion of the visual, Catholicism is not so much purely visual as visual-and-oral, at least in principle. Its characteristic is interaction of the oral with the material visible world. The Catholic sacraments without exception have a "form" which is oral (or in the case of matrimony virtually oral), plus "matter" which is for the most part visible and tangible.

The section of this book most immediately interesting to philosophers is doubtless the last, concerned with what Warner calls "symbolic life." Here the crucial point that symbols cannot be interpreted by studying individuals in isolation is documented and reinforced in a great many ways. It is difficult to see how one person alone, outside a social context (if such a person can ever be imagined), could even devise a symbol and hence how he could think at all or come to a reflective knowledge of his own existence. From this point of view, the study of human cognition itself involves the study of sociology; and works such as Warner's, like those of anthropologists such as Malinowski and of linguists such as Sapir or Whorf, constitute philosophical source books.